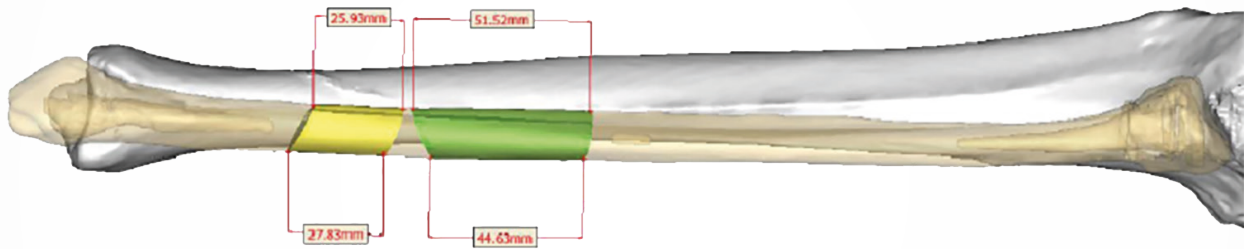


Journal of

DIAGNOSTICS & TREATMENT

of Oral & Maxillofacial Pathology

10²⁰¹⁹



JUNE 14-17, 2020

THE DIPLOMAT BEACH RESORT
HOLLYWOOD, FLORIDA



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Official Journal of the
Ukrainian Association for
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Goals & Scope

Journal of Diagnostics & Treatment of Oral & Maxillofacial Pathology goals to publish the cutting-edge and peer-reviewed articles on work in oral and maxillofacial surgery and neighboring specialties. The journal includes the following topics: implants surgery, head and neck imaging, microvascular and reconstructive surgery, oral and maxillofacial pathology, head and neck surgery/oncology, TMJ lesions/disorders, head and neck trauma, plastic surgery, pharmacology/drugs. When citing this journal, abbreviate as *J Diagn Treat Oral Maxillofac Pathol*.

The *Journal* first registered in Ministry of Justice of Ukraine on July 28, 2016

Re-registration Certificate: KB №23999-13839IIP

Issued on May 21, 2019

ISSN 2522-1965 (Online)

ISSN 2519-2086 (Print)

3 (10) 2019

Frequency: 12 times a year

SUBSCRIPTION INDEX IN UKRAINE: 60077. Details at page A7

The *Journal* is included to the list of scientific professional publications (issued on December 28, 2017; protocol #1714) of Ministry of Education and Science of Ukraine. In that *Journal* the results of dissertation papers can be published for obtaining the degrees of Candidate and Doctor of Medical Sciences.

Citations

CrossRef, Google Scholar

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Is Recommended by

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Published by

OMF Publishing, LLC

13-A Simferopolska Street, office 121, Kyiv, Ukraine, 02096

Tel: +38 (063) 293 18 13,

Instagram: [omf_publishing](https://www.instagram.com/omf_publishing)

Printed in Ukraine

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FIGURE. Professor Oleksii O. Tymofieiev (*left*) and Professor Rui P. Fernandes (*right*) at 1st International Scientific Congress of the Azerbaijan Society of Oral and Maxillofacial Surgeons. 14 March, 2019; Baku, Azerbaijan.

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TANTUM VERDE®

INFORMATION LEAFLET

for the medicinal product

Composition:

active substance: **benzydamine hydrochloride;**

100 mL of solution contain benzydamine hydrochloride 0.15 g;

excipients: ethanol 96%, glycerol, methyl parahydroxybenzoate (E 218), flavor (menthol), saccharin, sodium hydrocarbonate, Polysorbate 20, Quinoline Yellow (E 104), Patent Blue V (E 131), purified water.

Dosage form. Oromucosal solution.

Basic physical and chemical properties: a clear green liquid with a typical mint flavor.

Pharmacotherapeutic group. Dental preparations. Other agents for local oral treatment.

ATC code: A01A D02.

Pharmacological properties.

Pharmacodynamics.

Benzydamine is a non-steroidal anti-inflammatory drug (NSAID) with analgesic and antiexudative properties.

Clinical studies have shown that benzydamine is effective in the relief of symptoms accompanying localized irritation conditions of the oral cavity and pharynx. Moreover, benzydamine has anti-inflammatory and local analgesic properties, and also exerts a local anesthetic effect on the oral mucosa.

Pharmacokinetics.

Absorption through the oral and pharyngeal mucosa has been proven by the presence of measurable quantities of benzydamine in human plasma. However, they are insufficient to produce any systemic pharmacological effect. The excretion occurs mainly in urine, mostly as inactive metabolites or conjugated compounds.

When applied locally, benzydamine has been shown to cumulate in inflamed tissues in an effective concentration

due to its ability to permeate through the mucous membrane.

Clinical particulars.

Indications.

Symptomatic treatment of oropharyngeal irritation and inflammation; to relieve pain caused by gingivitis, stomatitis, pharyngitis; in dentistry after tooth extraction or as a preventive measure.

Contraindications.

Hypersensitivity to the active substance or to any other ingredients of the product.

Interaction with other medicinal products and other types of interaction.

No drug interaction studies have been performed.

Warnings and precautions.

If sensitivity develops with long-term use, the treatment should be discontinued and a doctor should be consulted to get appropriate treatment.

In some patients, buccal/pharyngeal ulceration may be caused by severe pathological processes. Therefore, the patients, whose symptoms worsen or do not improve within 3 days or who appear feverish or develop other symptoms, should seek advice of a physician or a dentist, as appropriate.

Benzydamine is not recommended for use in patients hypersensitive to acetylsalicylic acid or other non-steroidal anti-inflammatory drugs (NSAIDs).

The product can trigger bronchospasm in patients suffering from or with a history of asthma. Such patients should be warned of this.

For athletes: the use of medicinal products containing ethyl alcohol might result in positive antidoping tests considering the limits established by some sports federations.

Use during pregnancy or breast-feeding

No adequate data are currently available on the use of benzydamine in pregnant and breastfeeding women. Excretion of the product into breast milk has not been studied. The findings of animal studies are insufficient to make any conclusions about the effects of this product during pregnancy and lactation.

The potential risk for humans is unknown.

TANTUM VERDE should not be used during pregnancy or breast-feeding.

Effects on reaction time when driving or using machines

When used in recommended doses, the product does not produce any effect on the ability to drive and operate machinery.

Method of administration and doses.

Pour 15 mL of TANTUM VERDE solution from the bottle into the measuring cup and gargle with undiluted or diluted product (15 mL of the measured solution can be diluted with 15 mL of water). Gargle 2 or 3 times daily. Do not exceed the recommended dose.

Children.

The product should not be used in children under 12 years due to a possibility of ingestion of the solution when gargling.

Overdosage.

No overdose has been reported with benzydamine when used locally. However, it is known that benzydamine, when ingested in high doses (hundreds times higher than those possible with this dosage form), especially in children, can cause agitation, convulsions, tremor, nausea, increased sweating, ataxia, and vomiting. Such acute overdose requires immediate gastric lavage, treatment of fluid/salt imbalance, symptomatic treatment, and adequate hydration.

Adverse reactions.

Within each frequency group, the undesirable effects are presented in order of their decreasing seriousness.

Adverse reactions are classified according to their frequency: very common ($\geq 1/10$); common ($\geq 1/100$ to $<1/10$); uncommon ($\geq 1/1,000$ to $<1/100$); rare ($\geq 1/10,000$ to $<1/1,000$); very rare ($<1/10,000$); frequency unknown (cannot be estimated from the available data).

Gastrointestinal disorders: rare – burning mouth, dry mouth; *unknown* – oral hypesthesia, nausea, vomiting, tongue edema and discoloration, dysgeusia.

Immune system disorders: rare – hypersensitivity reaction, *unknown* – anaphylactic reaction.

Respiratory, thoracic and mediastinal disorders: very rare – laryngospasm; *unknown* – bronchospasm.

Skin and subcutaneous tissue disorders: uncommon – photosensitivity; very rare – angioedema; *unknown* – rash, pruritus, urticaria.

Nervous system disorders: *unknown* – dizziness, headache.

TANTUM VERDE contains methyl parahydroxybenzoate, which can cause allergic reactions (including delayed-type reactions).

Shelf life. 4 years.

Storage conditions.

Do not store above 25°C. Keep out of reach of children.

Packaging.

120 mL of solution in a bottle with a measuring cup; 1 bottle per cardboard box.

Dispensing category.

Over-the-counter medicinal product.

Manufacturer.

Aziende Chimiche Riunite Angelini Francesco A.C.R.A.F. S.p.A., Italy.

Location of the manufacturer and its business address.
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Date of the last revision of the text.

September 26, 2018.

Information leaflet is

APPROVED by

Order of the

Ministry of Health of Ukraine

No. 636 dated 01.10.2015

Registration Certificate

No. UA/3920/01/01

Subscription in Ukraine

A *Journal of Diagnostics & Treatment of Oral & Maxillofacial Pathology* is published monthly. A subscription for individuals and institutions to the print version of the *Journal* is performed both in any state post offices of Ukrposhta at the territory of Ukraine and online via website www.presa.ua

SUBSCRIPTION INDEX IS: 60077



From a January 2019 the *Journal* became a monthly publication. Taking into account that individuals or institutions who have already subscribed 4 Issues (in 2019) or will subscribe the *Journal* in 2019 will receive additional 8 Issues free of charge.

From the end of 2019 it will be possible to subscribe all 12 of 2020-year Issues.

ANOUNCMENT: At the end of the 2019 it will be possible subscribe the *Journal* from any corner of the globe via *Journal*'s website.

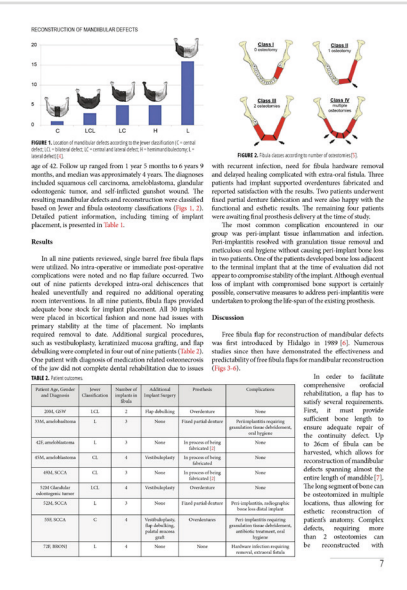
Issues	Fee
4 issues in 2019 (March, June, September, December)	USD 6.92 (UAH 195.50) per 1 issue
12 issues in 2020	USD 3.73 (UAH 97) per 1 issue

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Journal's cover image (virtual surgical planning for a segmental mandibular reconstruction with fibula transplant) is courtesy of:

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Image was taken from the article (*upper images* is a first and second pages of the publication): Fernandes RP, Quimby A, Salman S. Comprehensive reconstruction of mandibular defects with free fibula flaps and endosseous implants. *J Diagn Treat Oral Maxillofac Pathol* 2017;1:6–10.



Editorial

Gold Open Access Journals Focused on Case Reports: Last Trends among Editorial Board Models

Oleksii O. Tymofieiev^a & Evangelos G. Kilipiris^b

*Every one of us is, in the cosmic perspective, precious.
If a human disagrees with you, let him live. In a
hundred billion galaxies, you will not find another.*

—Carl E. Sagan

American astrophysicist and author

Diversity of editorial boards (EBs) composition is as wide as a world number of peer-reviewed journals. EBs usually varies in number of members and their functions, positions, affiliation with different institutions and countries. For example, the EB of *International Journal of Oral and Maxillofacial Surgery*, a monthly online and print official publication (hybrid publishing model) (2018 impact factor 1.961) of the International Association of Oral and Maxillofacial Surgeons, has 17 editors which represent 9 countries.¹ Another journal, *European Radiology* (2018 impact factor 3.962),² a monthly print and online hybrid publication is an official journal of European Society of Radiology, has 196 persons in EB (including 9 members of editorial staff).³ These nearly 200 persons represent 27 countries.³

The two new trends in a publishing of peer-reviewed journals are: 1) gold open access⁴ and 2) case report/case series scope.

Rison et al emphasized that rapidly increasing number of case report journals began in 2007.⁵ And to the mid-2015 the total number reached 160 journals published by 78 companies.⁵

So, we analyzed the features of a three gold open access and online only publications focused on case reports (Table 1) with no mentioned words “international”/“American” in the titles. And the results revealed that in those three journals (*Radiology Case Reports*, *Oral and Maxillofacial Surgery Cases*, and *Otolaryngology Case Reports*) notes a strong prevalence (mean, 91.95 percent) in EB members’ origin from a one country (USA).⁶⁻⁸ What may seem contradictory to one of the Scopus “criteria for title (ie journal) selection,” which emphasized on a need to have diversity in “geographical distribution of editors.”⁹ But a successful coverage of *Radiology Case Reports and Oral and Maxillofacial Surgery Cases* by Scopus indicates that if the journal meets all other 15 criteria⁹ it can be included into Scopus database.

Thus, the answers to databases criteria and peoples’ admonition, which tells us that the EB should have geographical diversity, can be the statements of Richardson and Chew (whose journal has all 17 editorial staff’s persons (100%) from USA and is covered by Scopus), that EB members 1) are distinguished faculties, 2) have international editorial experience and reputation, 3) permanent authors in PubMed, Scopus publications and journals with a high impact factor.¹⁰ To these conclusions we can add that 1) EB members in those 3 journals have a wide network among foreign colleagues who can attract authors with a high quality manuscripts and 2) according to Susarla et al

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<https://dx.doi.org/10.23999/j.dtmp.2019.10.1>.
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TABLE 1. Comparison of Three Gold Open Access Journals Focused on Case Reports.

Criteria	Radiology Case Reports	Oral and Maxillofacial Surgery Cases	Otolaryngology Case Reports
Years (yr) of publishing	14 yr	5 yr	4 yr
Covering by PubMed	Yes	No	No
Covering by Scopus	Yes	Yes	No
Total number of editorial board members and editors	17	17	11
Number of persons from the United States, %	17 (100%)	16 (93.75%)	9 (81.82%)
Number of persons from outside of the United States, %	–	1 (6.25%)	2 (18.18%)

the ratio between orthognathic surgery studies from North America and international origin is 70 and 30%, respectively.¹¹

So, the real restrictions in composition of EB members (strictly local or international) are usually dictated by two factors: 1) journal’s title (is there a word “international” or word which depicts some region [“American,” etc.]) and 2) official organ/association/society of the publication (eg the international name of the European Association for Cranio-Maxillo-Facial Surgery led to the need to have international EB composition inside the *Journal of Cranio-Maxillo-Facial Surgery*). Under other conditions the last trends among gold open access publications focused on case studies are teaching us that EB composition by internationally experienced scientists from one but scientifically strong country or region is also a great option.

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Vascular Pathology | Ultrasound: Case Report + Video

Analysis of a First Unilateral and Then Bilateral Internal Jugular Vein Thrombosis in a Heroin User

Dmytro S. Borodavko^a, Artem V. Abramenko^b, Stepan P. Borodavko^a, Olha S. Cherniak^c, & Ievgen I. Fesenko^d

SUMMARY

This report documents a first unilateral and then bilateral internal jugular vein (IJV) thrombosis as a result of repeated injections of heroin, which is rare in a practice of oral and maxillofacial surgeon. The patient was a 21-year-old male who was referred to a hospital with the diagnosis of phlegmon of the right neck. Emergency non-contrast computed tomography (5 images and 1 Supplemental Video are presented) revealed a hyperattenuating content in the lumen of expanded right IJV which fills its entire length. The patient received initial treatment according to the protocol. Ultrasound (US) (2 images and 2 Supplemental Videos are presented) in a first 24 hours supported the diagnosis describing a case as occlusive acute thrombosis. After 4 days of a positive dynamic the patient was transferred to outpatient mode. In a 10 day US examination (2 images and 2 Supplemental Videos are presented) simultaneously with positive changes in the lumen of a right IJV (partial clot lysis) an appearance of a left IJV thrombosis was noted. Analysis of thrombotic conditions of the neck, diagnostics methods, treatment options, and complications are performed.

Internal jugular vein (IJV) thrombosis shortly is described as a thrombus in the lumen of the IJV vein.

Extended, this condition is described as intraluminal thrombus located in any part of the IJV length from the intracranial jugular vein to the junction of the IJV and subclavian vein.¹

IJV thrombosis (IJVT) can be caused by: 1)

malignant tumor,^{1, 2} 2) central venous catheter, 3) deep neck space infection,² 4) intravenous drug abuse,² 5) antiphospholipid (Hughes) syndrome,³ etc.

Regardless of whether the IJV thrombosis accompanies with the signs of inflammation (fever, neck pain and swelling, leukocytosis, etc.)¹ or not⁴ the diagnosis of *thrombosis* replaced such terms as

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Paper received 11 May 2019

Accepted 02 August 2019

Available online 31 October 2019

<https://dx.doi.org/10.23999/j.dcomp.2019.10.2>

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thrombophlebitis (venous thrombosis with phlebitis) and *phlebothrombosis* (venous thrombosis without phlebitis).

Studies usually describe unilateral⁵ or bilateral⁴ IJVT in non-drug user cases. Limited reports dedicated to IJVT upon drug use.⁶ We present a unique case of a first unilateral and then bilateral internal jugular vein thrombosis in a 21-year-old chronic heroin user. Report is accompanied with clinical view of the patient, multislice CT scans, CT cine loops, US images, and four US videos in the dynamic of non-surgical treatment. The goals of our article are: 1) to train the maxillofacial surgeons in the ultrasound anatomy of the vascular-nerve bundle of the neck upon thrombosis and 2) to perform a revision of current terminology of thrombotic conditions at the neck.

CASE

A 21-year-old male was referred to the Kyiv Regional Clinical Hospital by physicians of two other medical institutions with a different diagnosis: phlegmon of the right neck and abscess of the neck. The main patients' complaints were severe fever, pain in the right neck, 6-day swelling, and extremely painful and complicated lateral movements of the head. Laboratory tests showed leukocytosis. Left neck was asymptomatic. Physical examination revealed two symmetrically arranged round-shape 0.4 × 0.4-cm nodules at the lower aspect of the neck (Fig 1). These nodules are the consequences of repeated injections of drug into the same part of the vein. And the drug users usually called it "mines" or "volcanoes." According to the patient's words he injected heroin during last 3 years.

Emergency non-contrast multidetector computed tomography (MDCT) (General Electric, HiSpeed Dual) revealed a swelling of the right sternocleidomastoid muscle, subcutaneous tissues, and presence of thrombus filled the entire length of the expanded right IJV, from the level of mastoid process to the level of clavicle (Figs 2 and 3). The blood clot showed hyperdense appearance and was perfectly visualized on brain window of the MDCT. The attenuation values in a 0.4-cm² measured intraluminal area were 69.4 ± 6.9 Hounsfield units (HU).

The Video 1 (Supplemental Video Content) demonstrates 16 consecutive non-contrast axial CT

scans of the neck. Video 1 is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/CB9JAuM6tQE>. Total video's duration: 23 sec. The analysis of CT images with different window settings revealed that the "brain window" is preferable to "head neck window" in diagnostics of IJV thrombosis upon non-contrast CT (Fig 4).

The gray scale (*synonym*: B-mode) and Doppler ultrasound (US) (model: HD11 XE, Philips) of the bilateral neck was performed by an experienced physician (O.S.C.; her experience in ultrasound investigation – 11 years) on the next morning after starting the medication therapy (intramuscular injections of ceftriaxone 1.0 g two times per day, anti-inflammatory medication, and probiotics) and compresses (ceftriaxone + dexamethasone + dimethyl sulfoxide solution) during first 24 hours. The gray scale and color Doppler US showed complete obstruction of the distended right IJV by hypoechoic thrombus and no occlusion of the contralateral IJV (Fig 5). Right IJV was non-compressible with no mobile valves. The Video 2 (Supplemental Video Content) demonstrates condition of a right symptomatic side of the neck. Transverse gray scale ultrasound shows how the entire lumen of the right internal jugular vein is obliterated by thrombus (it has a heterogenous hypoechoic appearance) from lower to upper neck. Reactive lymph nodes with echogenic hilum and a swelled right sternocleidomastoid muscle are also visualized. Video 2 is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/L6Cwe5RbqpU>. Total video's duration: 3 sec. The Video 3 (Supplemental Video Content) depicts a gray scale sonograms obtained from longitudinal position of the probe respectively to the right subclavian vein. It demonstrates a sagging of the thrombus to the place where the right IJV unites with the right subclavian vein (anechoic tubular structure) and is going further as a right brachiocephalic vein. The IJV valve (visualized as a thin curved line at the lower aspect of the clot) does not allow the thrombus to penetrate below. Video 3 is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/thIfb-M7Sa8>. Total video's duration: 4 sec.



FIGURE 1. Clinical view of a 21-year-old patient before treatment. Notes a forced tilt of the head to the right side. Movement of the head to the left side is extremely painful for the patient and it's very difficult to turn his head completely to the left. Swelling of the right neck without erythema is indicated by *arrowhead*, bilateral "mines" (places of the repeated injections of a drug) – by *arrows*.

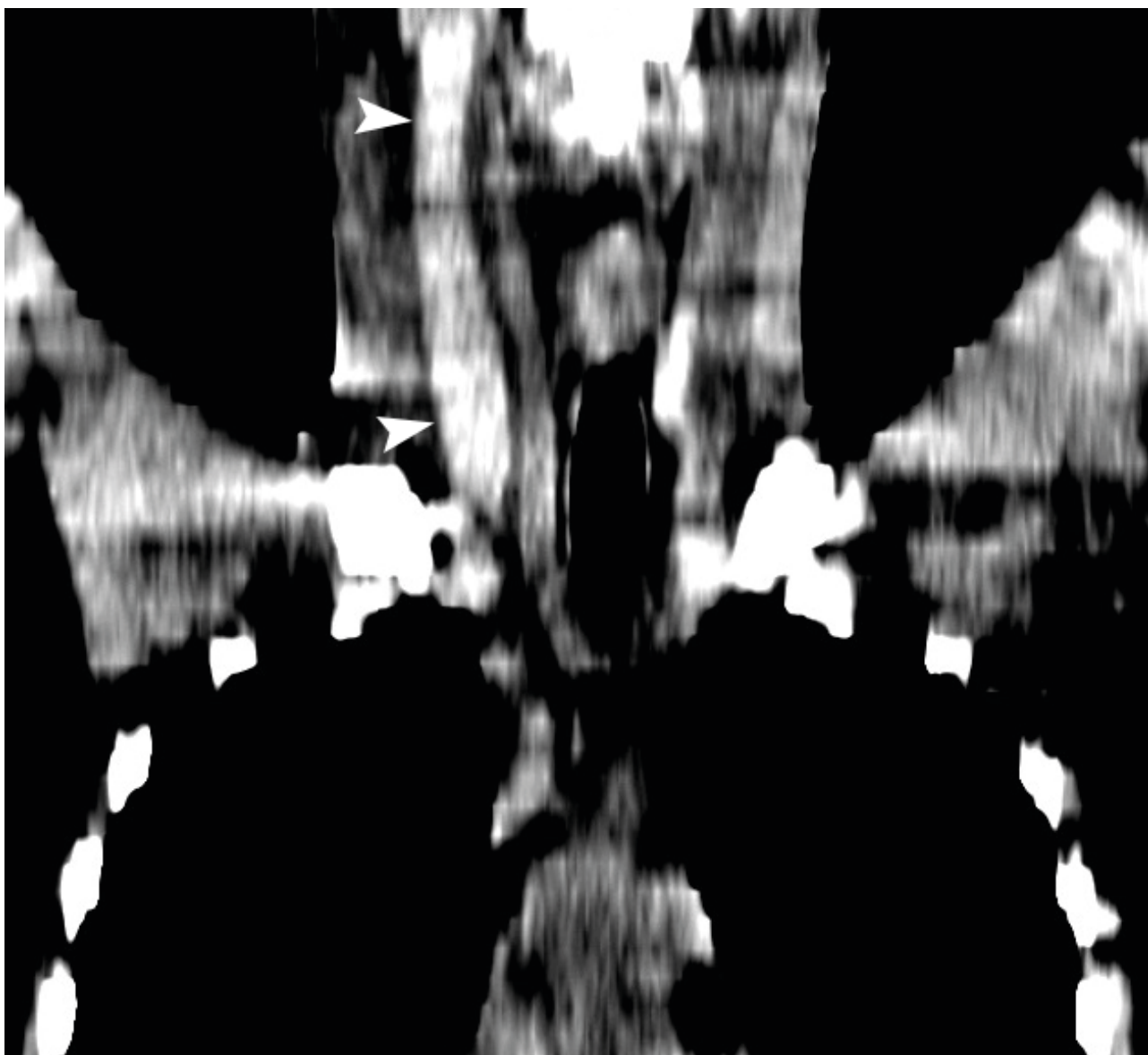


FIGURE 2. Non-contrast coronal CT scan (brain window) shows a thrombus (hyperattenuated) which filled the entire length of the dilated right internal jugular vein (*arrowheads*).

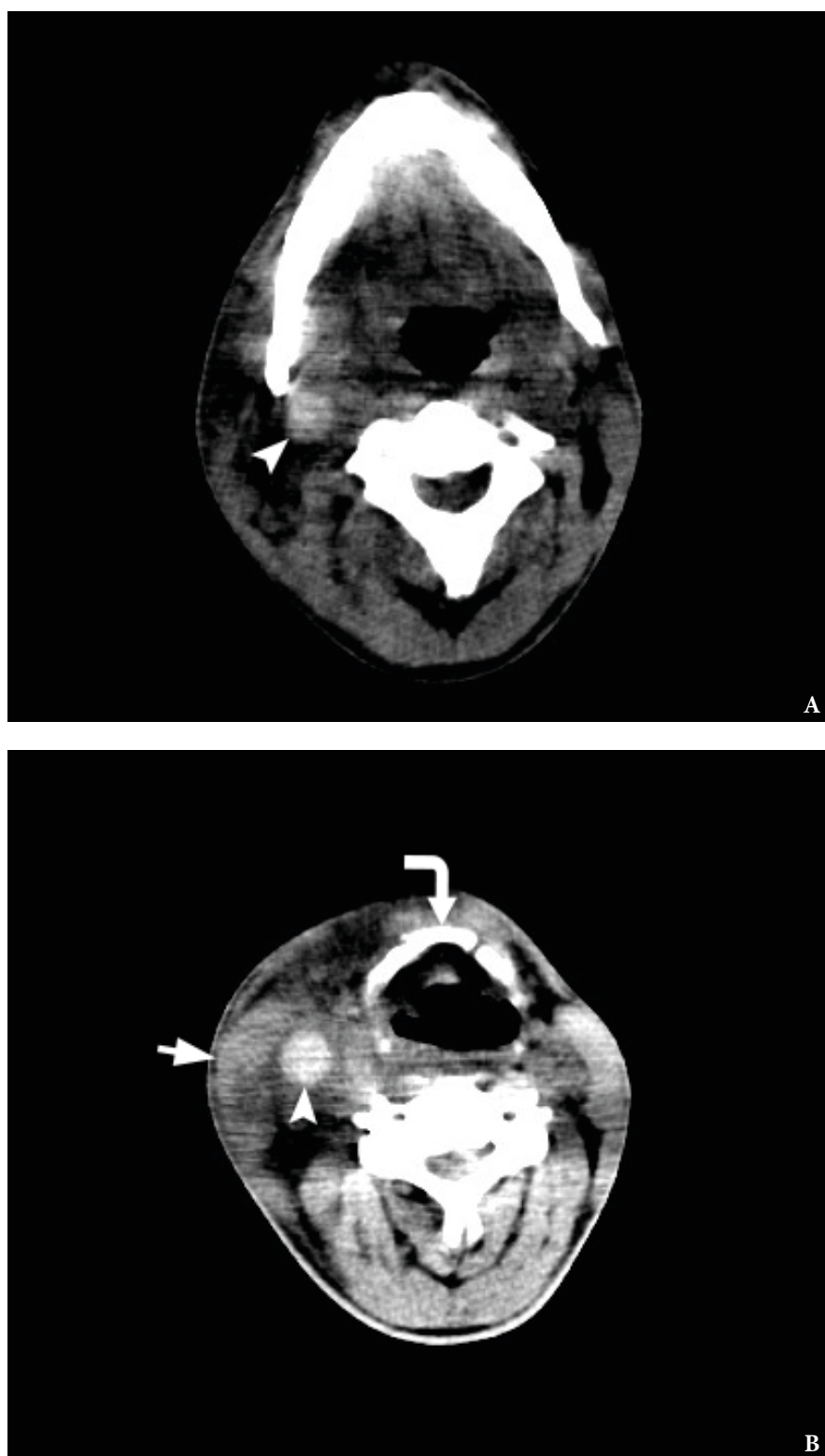
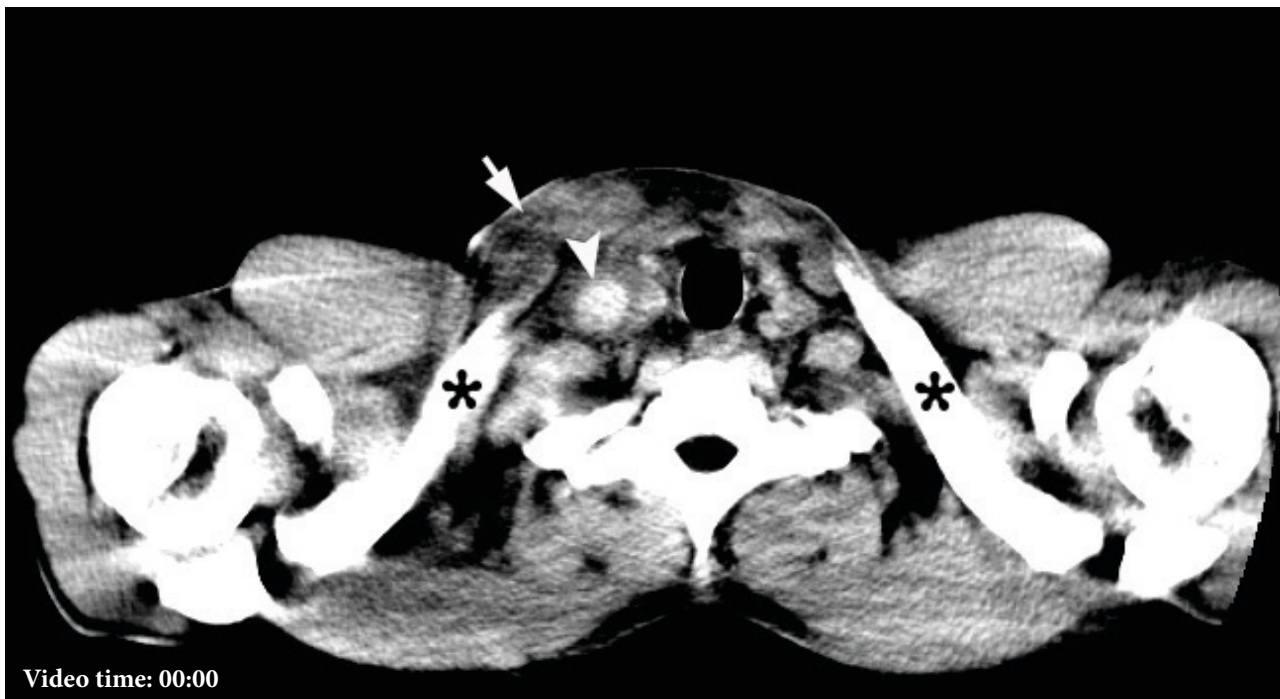


FIGURE 3. Non-contrast axial CT images (brain window) at the level of mandible (**A**) and hyoid bone (**B**) (*curved arrow*). Notes a hyperdense (*synonym: hyperattenuated*) content, ie thrombus (*arrowhead*), in the lumen of the right IJV. The attenuation values in a 0.4 cm² of the measured intraluminal area was 69.4 ± 6.9 HU. A swelled right sternocleidomastoid muscle is indicated by *arrow*.



VIDEO 1. Supplemental Video Content demonstrates 16 consecutive non-contrast axial CT scans (brain window) of the neck. Image at the level of clavicles (*asterisks*) showed hyperattenuated content (*arrowhead*), ie thrombus, in the lumen of the right IJV. *Arrow* – lower part of the swelled right sternocleidomastoid muscle.

Video is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/CB9JAuM6tQE>.

Total video's duration: 23 sec.



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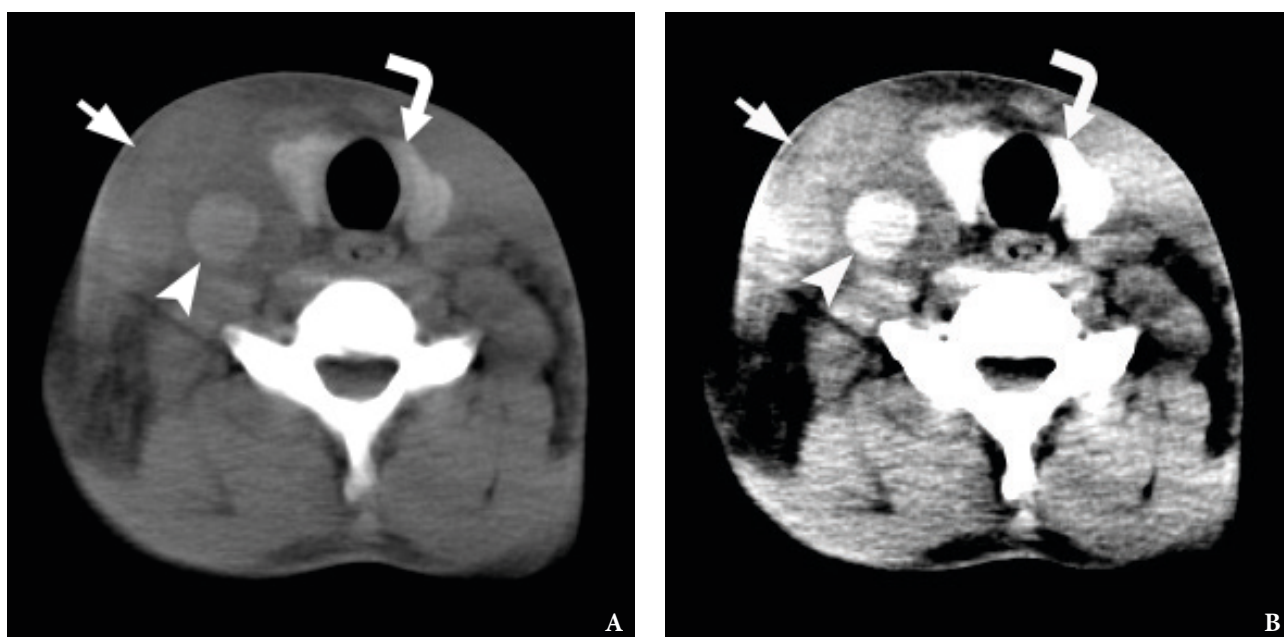


FIGURE 4. Comparison of “head neck window” (**A**) and “brain window” (**B**) upon verification of IJV thrombosis (*arrowhead*) using non-contrast multidetector CT. **A** and **B** are the same axial scan at the level of thyroid gland (*curved arrow*). *Arrow* – a swelled right sternocleidomastoid muscle.

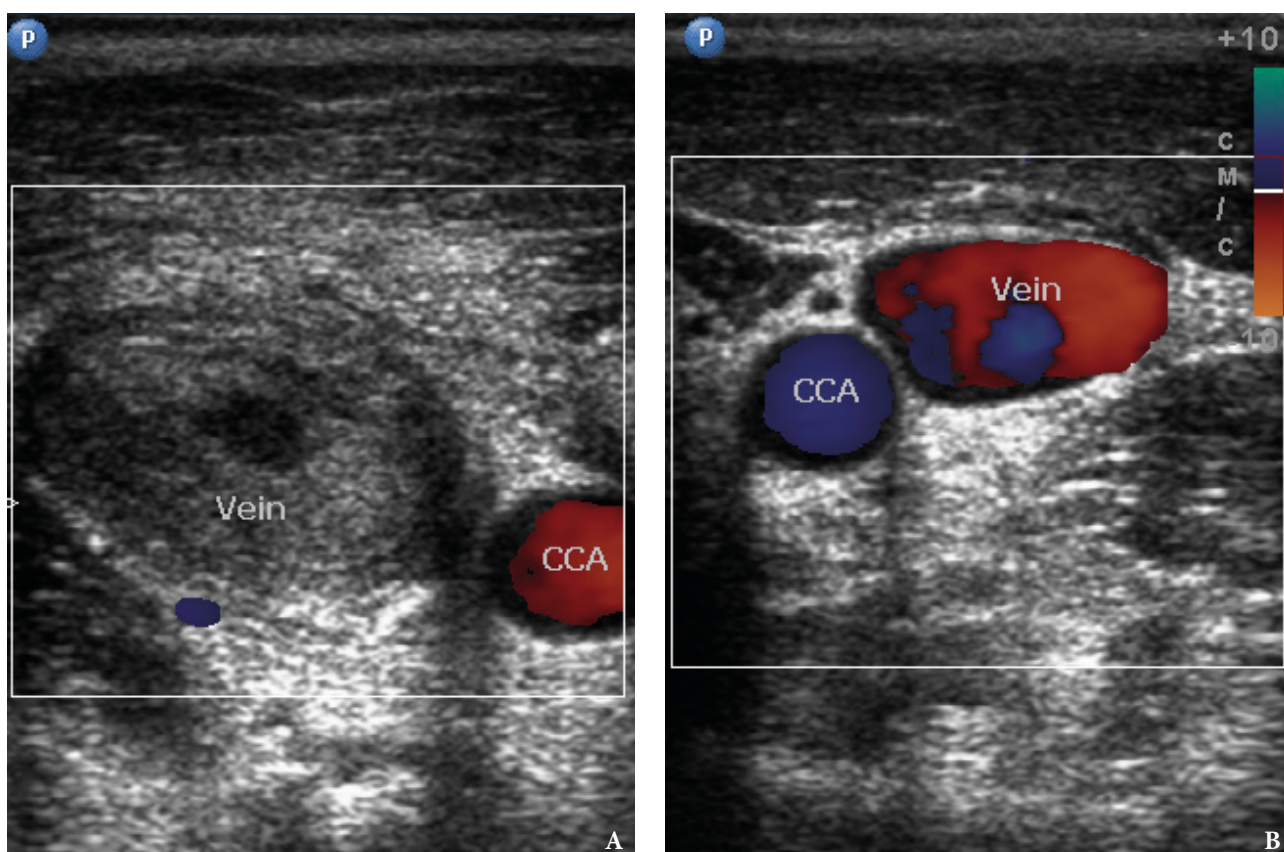
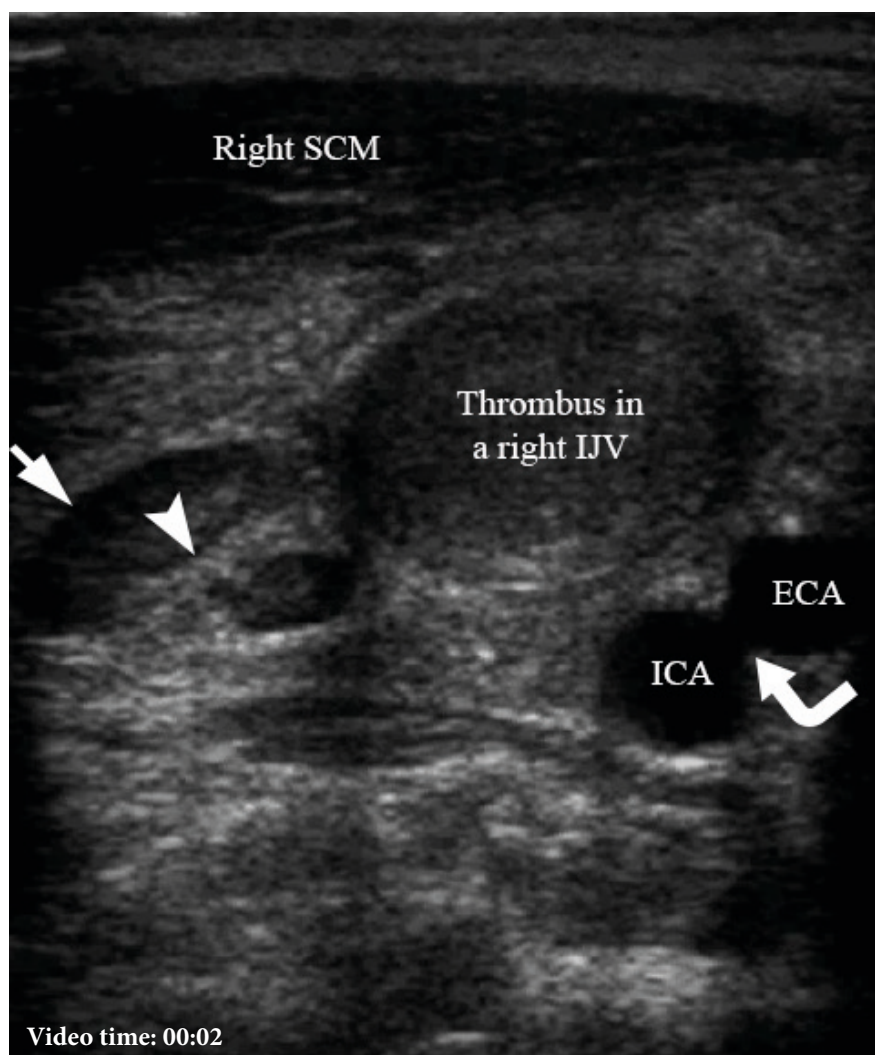


FIGURE 5. Comparison of transverse color Doppler sonograms of the right (**A**) and left (**B**) neurovascular bundles of the neck during first 24 hours after hospitalization. **A:** Notes an occlusive thrombus in the right dilated IJV (*vein*). **B:** Left non-obstructed IJV (*vein*) has a typical appearance, its size two times smaller than an obstructed vein. CCA – common carotid artery.



VIDEO 2. Supplemental Video Content shows gray scale sonogram obtained from transversal position of the probe respectively to the neurovascular bundle of the neck. The entire lumen of the right internal jugular vein is obliterated by thrombus (has a heterogenous hypoechoic appearance and indicated as *thrombus in a right IJV*). *Arrow* – reactive lymph node with echogenic hilum (*arrowhead*), *curved arrow* – ramification (bifurcation) of the common carotid artery into external and internal carotid arteries (*ECA* and *ICA*), *right SCM* – a swelled right sternocleidomastoid muscle.

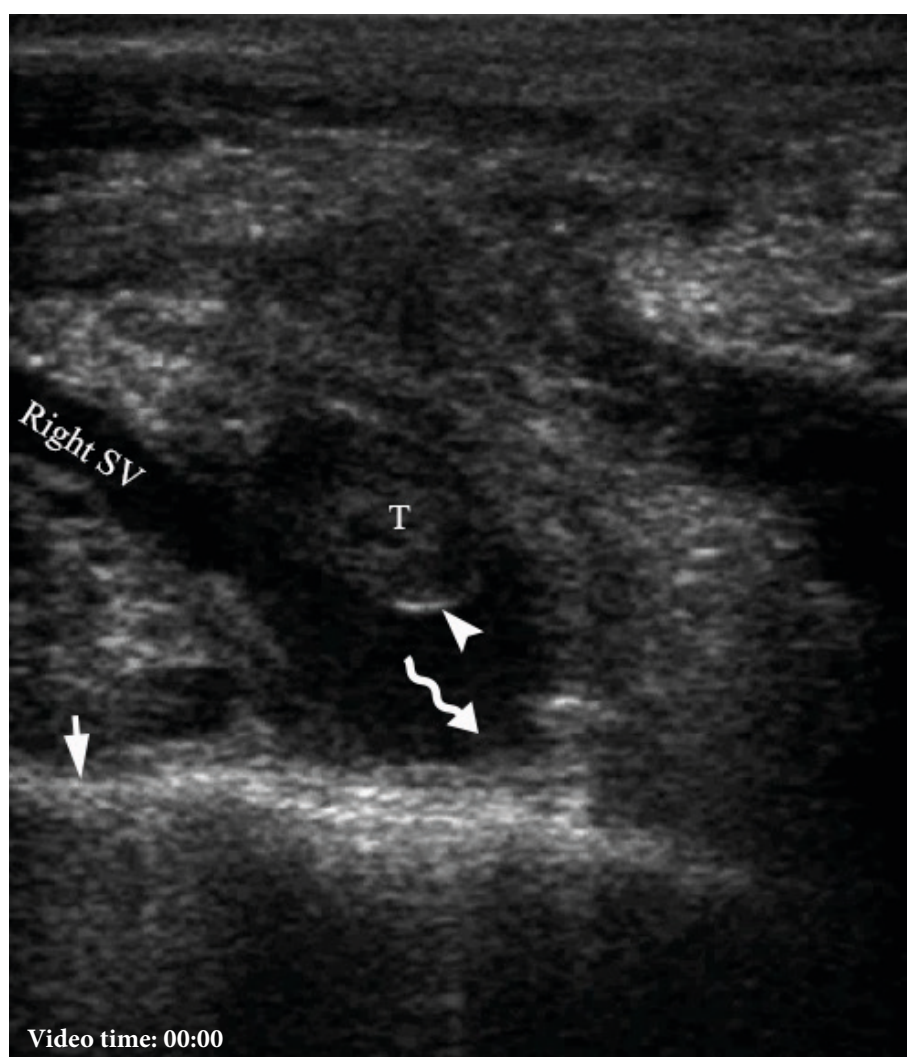
Depth of US is 4.0 cm.

Video is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/L6Cwe5RbqU>.

Total video`s duration: 3 sec.



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VIDEO 3. Supplemental Video Content shows a gray scale sonogram obtained from longitudinal position of the probe respectively to the right subclavian vein (*Right SV*). Sonogram demonstrates a sagging of the thrombus (*T*) to the place where the right IJV unites with the right subclavian vein (anechoic tubular structure) and is going further as a right brachiocephalic vein (its direction is labeled by a *waved arrow*). The IJV valve (visualized as a thin curved line [*arrowhead*] at the lower aspect of the clot) does not allow the thrombus to penetrate below. *Arrow* – a clavicular cortical bone surface.

Depth of image is 4.0 cm.

Video is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/thlfb-M7Sa8>.

Total video's duration: 4 sec.



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Anamnesis, clinical manifestations, and both investigations (CT and US) proved the diagnosis of a post-injective thrombosis of the right internal jugular vein (as a result of repeated puncture⁷ of IJV by intravenous heroin abuser). To the initial treatment we prescribed xarelto 15 mg (similar treatment strategy as in study of Corral and Villanueva)⁵ two times per day during first 21 days and 20 mg during next 3 months, detralex 1 tablet 2 times per day during 2 months.

After 4 days of a positive dynamic the patient was transferred to outpatient mode. At 10-day follow-up, physical examination (Fig 6) of the patient showed no fever, pain and absence of neck swelling. A gray scale and color Doppler US (Fig 7) revealed a partial destruction of the thrombus in the lumen of right IJV, but recanalization of vein not happened yet and it is still obliterated.

The Video 4 (Supplemental Video Content) depicts a gray scale US of the thrombus's condition within a right IJV with multiple foci of clot's destruction and reactive lymph nodes. Artifacts of the edge shadowing and acoustic enhancement are labeled and perfectly visualized. Video 4 is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/3yUCamR6ZXU>. Total video's duration: 4 sec.

Performing US of the left neck, our team was surprised as it showed also an appearance of the left IJV thrombosis (Fig 8). The occlusive clot is located in the caudal part of the left IJV, filled the vein from its junction with subclavian vein to the level of ramification of the left common carotid artery into external and internal arteries. It's indicated that patient, despite the prohibition to inject the drug, continue to do that inside the left IJV. The Video 5 (Supplemental Video Content) demonstrates a thrombus in a lumen of the left IJV. Video 5 is available in the page of the full-text article on dtjournal.org and in the YouTube channel "Videos DTJournal," available at <https://youtu.be/StjTB8erYaQ>. Total video's duration: 4 sec.

This thrombotic state at 10-days follow-up led to the need of change the diagnosis from post-injective thrombosis of the right IJV into post-injective bilateral IJV thrombosis and to continue the treatment during the next three months.

DISCUSSION

This case represents a challenge in a treatment of

drug abusers with internal jugular vein thrombosis by oral and maxillofacial surgeons. According to Chowdhuri et al trauma to the IJV from catheterization and repeated intravenous injections by drug users are the most frequent causes of thrombosis.⁸ The IJV thrombosis results from disturbance of pathophysiological mechanisms in Virchow's triad of endothelial damage, stasis, and hypercoagulable state.^{9, 10} The report dedicated to analysis of physical and geographical injecting sites among injecting drug users¹¹ stated that drug addicted persons are using neck as a possible site of drug injections in 10% of cases. Rafful et al emphasized that IJV thrombosis and deep neck infections in a neck injected drug users are requiring the medication therapy and possibly surgeries and other care procedures.¹²

TERMINOLOGY

Thrombosis of the IJV can be termed by different names (Table 1), depending on the year of the publication, etiology, and clinical course. Ochsner in early 1950s stated that "phlebothrombosis" and "thrombophlebitis" are different in every respect except that in each there is a thrombus (ie clot) within the vein.¹³ In 1990s, Leu and Leu stated that "thrombosis" is an intravascular coagulation, which may be due to a variety of reasons.¹⁴ According to those two authors the term "phlebothrombosis" is a synonym of "thrombosis,"¹⁴ Chur et al described "phlebothrombosis" as deep vein thrombosis (DVT) without signs of inflammation of the vein wall.¹⁵ In their opinion this condition does not last long, because in response to the presence of a blood clot, the vein wall quickly responds with an inflammatory reaction.¹⁵ Term "IJV thrombosis" precisely indicates on the clot's location and described by Leci-Tahiri et al as intraluminal thrombus located in any part of the IJV.¹

The symptomatic cases of IJV thrombosis are described in the reports of Tannenbaum et al and others.^{16, 1} The statement of Lønnebakken et al¹⁷ that clinical symptoms of IJVT may be vague and misleading or even absent¹⁷ indicated that it's also reasonable to name thrombosis in those cases as asymptomatic. And as there is no signs of inflammation in several decades before such type of thrombotic condition usually named as phlebothrombosis. Tymofieiev, describing facial vein thrombophlebitis, stated that at first, the



FIGURE 6. Clinical view of a patient in 10 days after the initiated treatment, and prohibition for the patient to inject the drug. Visual swelling of the neck is absent; movements of the head are not limited and painless. *Arrows* – places of the repeated injections (drug users name them “mines” or “volcanoes”) of a drug (heroin). A right place of injections has decreased in size in two times comparing to the first visit of patient.

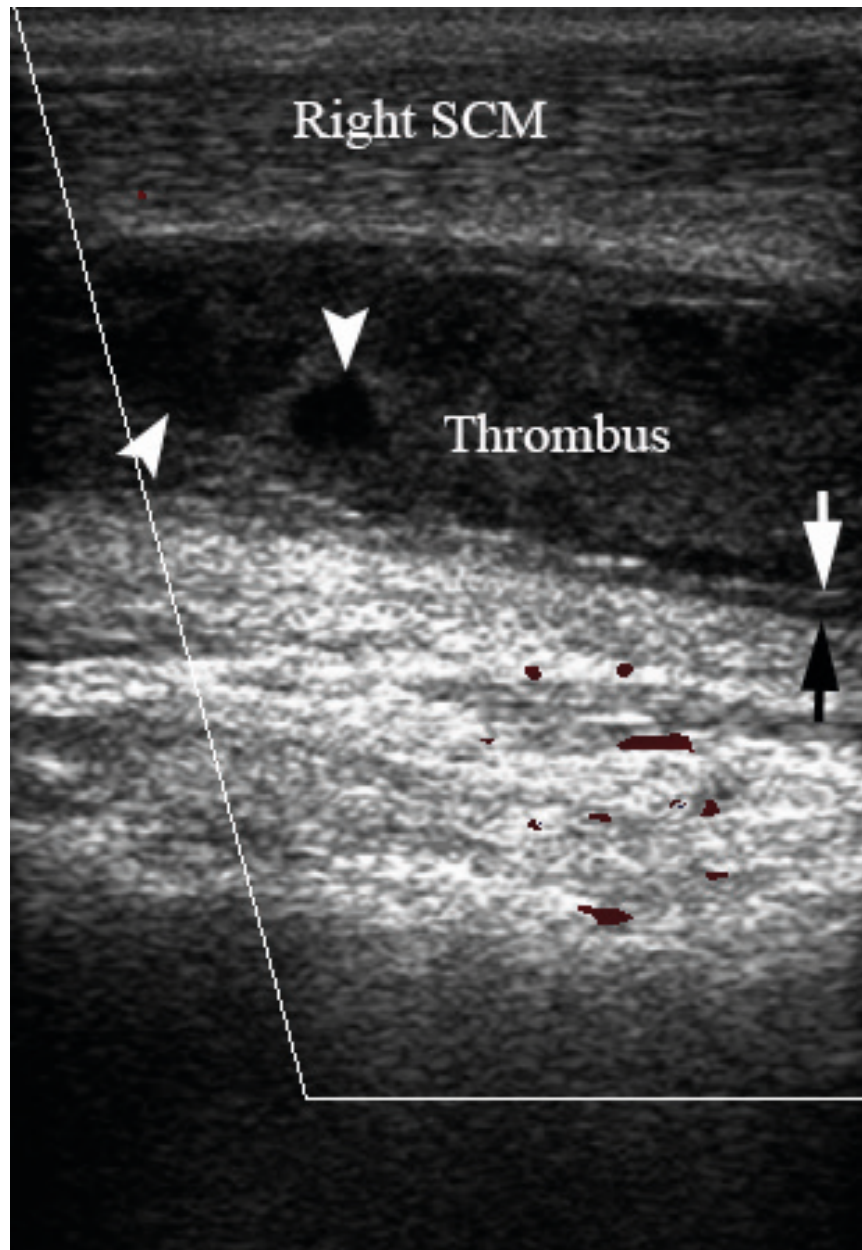
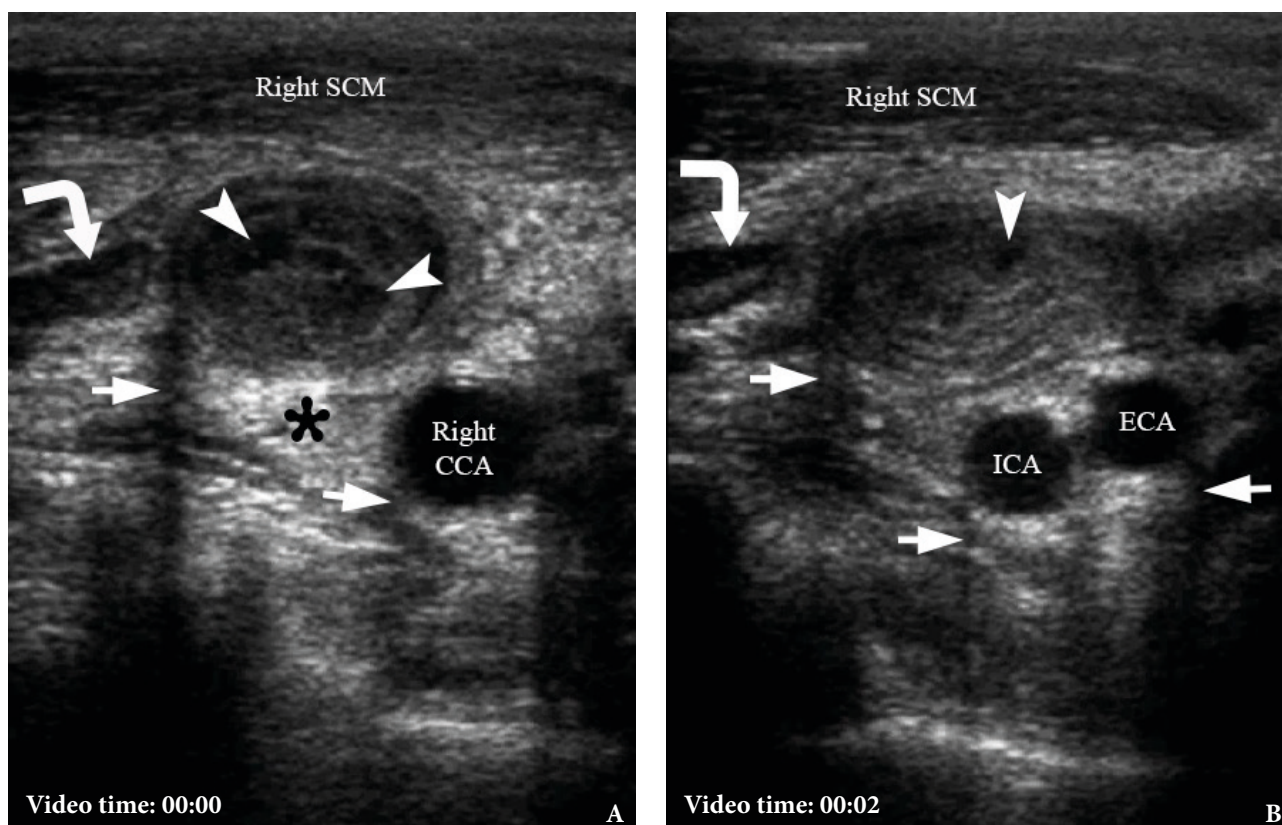


FIGURE 7. 10-day follow-up: Longitudinal color Doppler ultrasound of the right IJV. Partial destruction of the *thrombus* is indicated by *arrowheads*, the irregularity of inner surface of the thickened vein walls – *arrows*, right sternocleidomastoid muscle – *Right SCM*. Depth of US investigation is 5.0 cm.



VIDEO 4. 10-day follow-up. Transverse gray scale sonograms (**A, B**) demonstrate condition of the thrombus within a right IJV with multiple foci of clot`s destruction (*arrowheads*). *Curved arrow* – reactive lymph node, *arrows* – artifact of edge shadowing, *asterisk* – artifact of acoustic enhancing, *right SCM* – right sternocleidomastoid muscle, *ECA* – external carotid artery, and *ICA* – internal carotid artery.

Depth of ultrasonography is 4.0 cm.

Video is available in the page of the full-text article on dtjournal.org and in the YouTube channel 'Videos DTJournal', available at <https://youtu.be/3yUCamR6ZXU>.

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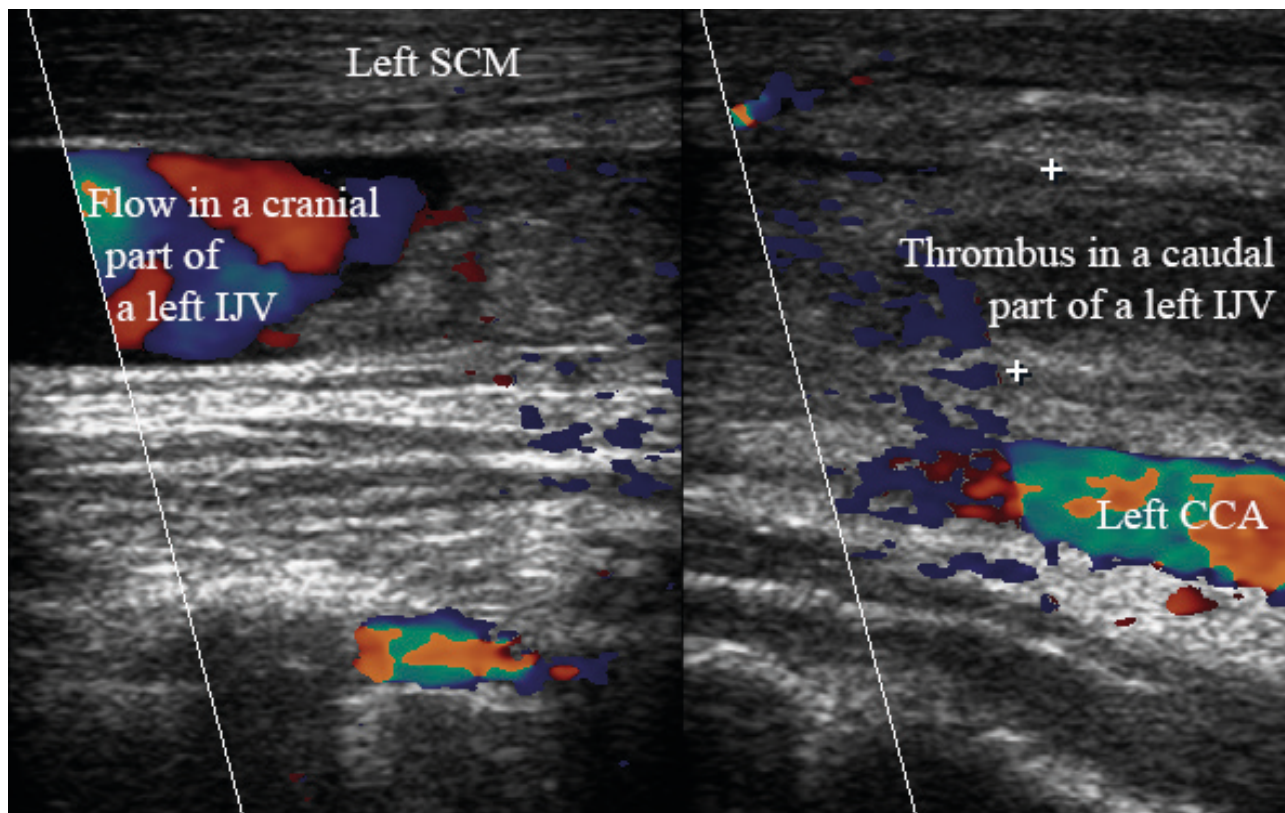
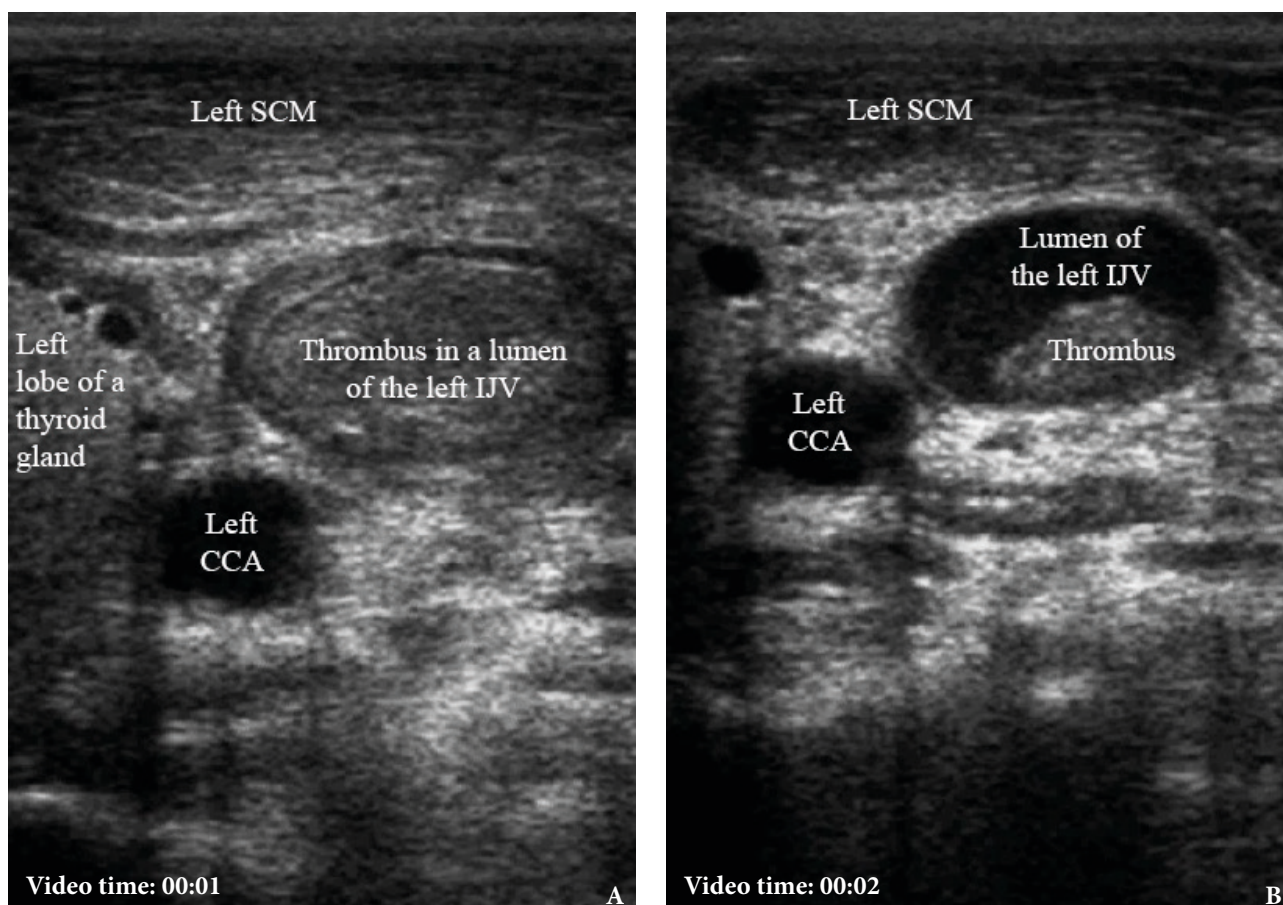


FIGURE 8. 10-day follow-up. Two combined long-axis color Doppler images (**A**, cranial part of the left neurovascular bundle of the neck; **B**, caudal part) from adjacent sections. Sonograms demonstrate occlusive *thrombus* in the lumen of caudal part of the left IJV. Notes a *flow* in non-occluded cranial part of the IJV. Left common carotid artery is labeled as *Left CCA*, left sternocleidomastoid muscle – *Left SCM*.



VIDEO 5. 10-day follow-up. Transverse gray scale sonograms (A, B) demonstrate incidental finding a *Thrombus in a lumen of the left IJV*. In a caudal part of the vein the thrombus filled the entire lumen, in a cranial part – located near its posterior wall. *Left CCA* – left common carotid artery, *Left SCM* – left sternocleidomastoid muscle.

The depth of US examination is 4.0 cm.

Video is available in the page of the full-text article on dtjournal.org and in the YouTube channel 'Videos DTJournal', available at <https://youtu.be/StjTB8erYaQ>.

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TABLE 1. Terms which Are Related or May Be Related with a Thrombus in the Lumen of IJV.

Term	Description		
Thrombophlebitis	Is a primary phlebitis followed by secondary thrombosis. ¹⁴		
Phlebothrombosis	That term refers to deep vein thrombosis (DVT) without signs of inflammation of the vein wall. This condition does not last long, because in response to the presence of a blood clot, the vein wall quickly responds with an inflammatory reaction. ¹⁵		
Thrombosis	Is an intravascular coagulation, which may be due to a variety of reasons. ¹⁴ According to the Leu and Leu the term “phlebothrombosis” is a <i>synonym</i> of “thrombosis.” ¹⁴		
IJV Thrombosis	Intraluminal thrombus located in any part of the IJV length from the intracranial jugular vein to the junction of the IJV and subclavian vein. ¹		
	Classification according to symptoms	Classification according to clinical course	
	Symptomatic ^{1, 16}	Asymptomatic ^{17, 18}	Acute ^{7, 20}
Deep venous thrombosis (DVT)	Is a formation of thrombi (ie blood clots) in the deep veins of the body. ²² Usually that term is describing the thrombosis in the limbs. ^{23, 24}		
Internal jugular DVT	As IJV thrombosis can result in extension of the clot or pulmonary embolism, it is viewed as a DVT. ²⁵		
Lemierre’s syndrome (synonyms: Lemierre’s disease, Lemierre syndrome, necrobacillosis, ²⁶ and postanginal syndrome ²⁶)	Thrombophlebitis of the IJV and bacteremia caused by primarily anaerobic organisms, following a recent oropharyngeal infection. ²⁷ In those case, such type of thrombophlebitis is named septic (<i>synonym</i> : suppurative) IJV thrombophlebitis. ²⁸		
Trousseau’s syndrome (synonyms: cancer-associated thrombosis, malignancy-related thromboembolism, idiopathic thromboembolism associated with cancer, etc.) ³⁰	The term is usually applied to head neck area as a unilateral or bilateral IJV thrombosis due to neoplasm. ^{30, 1}		
Antiphospholipid syndrome (synonym: Hughes syndrome)	Is an autoimmune disorder with an association of thrombosis (in any tissue or organ) or recurrent pregnancy loss with persistent antiphospholipid antibodies (aPLs). ³¹ And the lumen of IJV is also possible place of thrombosis upon that syndrome. ³		
Ovarian hyperstimulation syndrome	Are a syndrome associated complications which include venous thromboembolism, renal failure, hypovolaemic shock, respiratory distress syndrome and death. ³³ From the case studies, the 78 percent of women with developed IJV thrombosis following <i>in vitro</i> fertilisation also experienced ovarian hyperstimulation syndrome. ^{33, 34}		

thrombus may be aseptic, and in these cases there are no signs of acute soft tissues inflammation, but later clot undergoes proteolysis, and its decayed parts, as well as the products of the metabolism of microorganisms, are absorbed into the blood accelerating signs of inflammation.¹⁹

Rhys and Tajima et al applied the word “acute”

describing a symptomatic IJV thrombosis.^{7, 20} And it is very common in English-language publications to divide DVT into acute (first 27 days) and chronic (28 days or longer) (*synonym*: post-thrombotic syndrome) form according to the clinical course.²¹ The authors and practitioners from some East-European countries categorize vein thrombosis into three forms: 1) acute

(first 7-14 days), 2) subacute (from 14 to 30 days), and 3) chronic (more than 1 month).

Deep vein thrombosis (DVT) is a formation of thrombi (ie blood clots) in the deep veins of the body.²² That term is very popular in describing a thrombosis in the limbs.^{23, 24} As IJV thrombosis can result in extension of the clot or pulmonary embolism, it is viewed as a DVT.²⁵

The literature also identifies 4 syndromes which are related (Lemierre's) or may be related (Trousseau's, antiphospholipid, and ovarian hyperstimulation syndromes) with a formation of thrombi in the lumen of IJVs.

Lemierre's syndrome (*synonyms*: Lemierre's disease, Lemierre syndrome, necrobacillosis,²⁶ and postanginal syndrome²⁶) is a IJV thrombophlebitis and bacteremia caused by primarily anaerobic organisms, following a recent oropharyngeal infection.²⁷ In those case such type of thrombophlebitis is named septic (*synonym*: suppurative) IJV thrombophlebitis.²⁸

Despite the fact that Trousseau's syndrome (*synonyms*: malignancy-related thromboembolism, idiopathic thromboembolism associated with cancer, etc.)²⁹ have multiple definitions²⁹ and is related to venous thromboses in patient with cancer of different locations, it is also applied to head neck cases of IJV thrombosis. And in such cases Trousseau's syndrome (*synonym*: cancer-associated IJV thrombosis) defines a unilateral or bilateral IJV thrombosis due to neoplasm.^{30, 1}

Antiphospholipid syndrome (*synonym*: Hughes syndrome) is an autoimmune disorder with an association of thrombosis (in any tissue or organ) or recurrent pregnancy loss with persistent antiphospholipid antibodies (aPLs).³¹ Publications indicate that lumen of IJV is also a possible place of thrombosis upon that syndrome.^{3, 32}

Ovarian hyperstimulation syndrome is a syndrome associated complications which include venous thromboembolism, renal failure, hypovolaemic shock, respiratory distress syndrome and death.³³ According to the case studies of Fleming et al, the 78 percent of women with developed IJV thrombosis following *in vitro* fertilisation also experienced ovarian hyperstimulation syndrome.^{33, 34}

IJV ANATOMY

The IJV follows a course from the jugular foramen in the base of the skull to a point between the clavicular

and sternal heads of the sternocleidomastoid muscle.³⁵ At the lower part, IJV joins subclavian vein and forms a brachiocephalic vein (*synonym*: innominate veins).³⁵ IJVs are helping to drainage the deoxygenated blood from the head.

Farina et al stated that IJV can have 1) typical "telescopic" appearance, 2) malformed valves and septa, and 3) hypoplastic vein appearance.³⁶ To these three morphological types of IJV it is reasonable to add a fourth and fifth type of IJV, which are related to malformations: a duplication (unilateral³⁷/bilateral³⁸) of IJV and unilateral IJV agenesis³⁹ (can be found in only 0.05-0.25 percent of population).

Dhanger et al emphasized that many physicians are still unaware of the presence of the valves in the IJV.⁴⁰ Being the only valve between the brain and the heart, it plays a crucial role in preventing backward flow of blood in the vein.⁴¹ Venous valves are potential locations for a venous stasis²⁴ and for a blood clot formation as a result of vessel injury during the injections of drug. Also, Raut noted that valve damage during catheterization forms a nidus to further clot formation.⁴¹

An autopsy data of Furukawa et al depict the statistics of valves based on 60 individuals: in 96.7% of cases valves were found bilaterally and in 3.3% of cases – unilaterally, in 46.6 percent of cases the position of valves was relative to the clavicle and in 53.4 percent – directly posterior to the clavicle.⁴² 72% valves were bicuspid, 26.3% were unicuspid, and 1.7% were tricuspid.⁴² In the report of Raut, it is emphasized that anatomical position of IJV valve usually is at a distance of 0 to 26 mm proximal to the junction of the internal jugular and subclavian vein.⁴¹ Lack of mobile venous valves is also one of the thrombosis signs.⁷

CONTRAST VS NON-CONTRAST CT

Similar to conclusion of Avsenik et al about non-contrast CT in case of cerebral venous sinus thrombosis, our case clearly proves that non-contrast multislice CT as an emergency examination has a high value for diagnosis of IJV thrombosis.⁴³ Simultaneously with that statement, Leci-Tahiri et al and Tannenbaum et al insist on a need to perform contrast enhanced CT as it improves evaluation for acute bleeding and osseous injury and for additional pathologic conditions such as: 1) infection, 2) neoplasm, and 3) vascular dissection or thrombosis.^{1, 16}

Windowing is a technique frequently used in the evaluation of CT scans to enhance contrast

for the particular tissue or abnormality type being evaluated.⁴⁴ Brain window can show differences among different types of soft tissues, such as brain, blood, vasculature, air-filled structures, and fluid-containing spaces.⁴⁴ In our case, among 6 different CT window settings (chest, abdomen/pelvis, lung, brain, bone, and head neck) a good clot visualization during non-contrast CT analysis showed a head neck window and the best visualization – a brain window for a clear identification of the thrombus inside IJV.

IJV THROMBOSIS: ULTRASOUND APPEARANCE

Taking into account the advantages of US, it is important to understand the US appearance of thrombotic conditions in the neck tissues and monitor their state in dynamics. Rhys describes ultrasound appearance of both, acute and chronic IJV thrombosis.⁷

Thrombi have hypoechoic appearance.⁷ Partial destruction (hypoechoic areas) of the thrombus indicates the process of the resolution of the thrombus. IJVT as thrombosis in other veins can have occlusive or non-occlusive thrombus in the lumen of the vessel.⁴⁵

The US appearance of free-floating thrombus (*synonym*: mobile thrombus) in the IJV is precisely described in report of Hsu et al.⁴⁶

In our case, upon US examinations of the neurovascular bundles are usually visualized two artifacts: 1) edge shadowing and 2) posterior acoustic enhancement. According to Baad et al 'edge shadowing' is a refractive artifact that occurs at the edge of a significantly curved boundary (in our case boundaries of vessels) with a different speed of sound than that of the surrounding tissues.⁴⁷

Artifact of edge shadowing can be noted at transverse gray scale sonograms in the next places: 1) edges of common carotid artery, 2) edges of external and internal carotid arteries and 3) edges of IJV (with or without clot in the lumen).

Artifact of the posterior acoustic enhancement (*synonyms*: acoustic enhancement⁴⁸ and increased through transmission⁴⁷) occurs distal to low-attenuating structures (cystic formations, blood vessels,²⁶ etc.). In our case this artifact occurred behind internal jugular veins and carotid arteries.

Reactive lymph nodes are also usually visualized on US upon IJV thrombosis with signs of inflammation. They look enlarged, with elongated

form and marked echogenic hilus. Hilus is a part of lymph node where blood vessels enter and leave.⁴⁹ Color and power Doppler shows increased hilar vascularity in the reactive lymph nodes.⁴⁹

Deatrick et al suggested that the vein wall response is initiated early following the formation of the clot, and persists even in the presence of total resolution.⁵⁰ Those conclusions were proved by the data of their study: the affected vein wall segment thickness in acute deep vein thrombosis cases measured 1.5-times greater than those in unaffected contralateral non thrombosed segments.⁵⁰ At 6 months, a thickness can be 1.9-times greater than the measurable thickness in unaffected contralateral non-thrombosed vein segments.⁵⁰

The multiplicity of an ultrasonography of the IJVs is as follows: in the absence of deterioration, the next US is done 1 week after the first examination, then another week, and later on as prescribed by the physician.¹⁵ Chur et al had emphasized that as a rule, the dynamics of thrombosis is already visible on the second US, and more often it is positive for the patient.¹⁵

Table 2 demonstrates a comparison of the IJV thrombosis characteristics upon different methods of investigation (non-contrast CT, contrast-enhanced CT, and US).

DIFFERENTIAL DIAGNOSIS

Clinical symptoms of the symptomatic IJV thrombosis should be differentiated with 1) infection of the neck, 2) lymphadenitis, 3) external jugular vein thrombosis (which occurs both unilaterally⁴⁵ and bilaterally⁵⁴), and 4) benign clinical conditions of the neck (infected branchial cleft cyst, etc.), etc.

TREATMENT AND COMPLICATIONS

Corral and Villanueva supported the opinions described in the literature prescribing for IJV thrombosis cases an anticoagulation therapy from 3 to 6 months.⁵ In rare selected cases with initial thrombolysis, venous thrombectomy, or placement of a superior vena cava filter the anticoagulation is contraindicated.⁵

Analysis of Ascher et al based on 210 patients proved that patients with isolated internal jugular deep venous thrombosis have mortality and morbidity rates comparable to those of subclavian vein thrombosis.⁵⁵ In their study was found that

TABLE 2. Characteristics of IJV Thrombosis.

Features	Venous Thrombosis
Risk factors	Vein injury (upon drug abuse or catheterization), cancer, infection, surgery, etc.
Clot composition	Red cell-rich “red thrombi.” ⁵¹
Appearance on non-contrast CT	<ol style="list-style-type: none"> 1. Swelling of the adjacent soft tissues. 2. Distention of the vein is possible. 3. Hyperattenuating thrombus in the lumen of the vein.⁴³
Appearance on contrast enhanced CT	<ol style="list-style-type: none"> 1. Swelling of the adjacent soft tissues. 2. Distention of the vein is possible. 3. Low-attenuation filling defect in the vein. 4. Lumen filled with dense soft tissue. 5. Enhancing walls.⁵³
Appearance on ultrasound	<ol style="list-style-type: none"> 1. Surrounding soft tissue edema⁷ upon acute thrombosis. 2. Hypoechoic appearance of the thrombus.⁷ 3. Partial or complete obliteration of the vein’s lumen by the thrombus. Thus, presence or absence of the flow. 4. Non-compressible or partially compressible vein. 5. Lumen can be expended due to the anatomic features of the veins (venous wall is thinner than that of artery due to absence of smooth muscle and elastic fibers.⁵² They are more vulnerable to deform. 6. No functional valves in the affected vein. 7. Thickening of the vein wall. 8. Upon chronic thrombosis the collaterals will usually be present, particularly the anterior jugular vein.⁷

among 210 patients the 21 patients (10 percent) were with IJVT only; and 61 patients (29 percent) with concomitant internal jugular and subclavian/axillary deep venous thrombosis.⁵⁵ The mortality rates for 12 month follow-up period were 42% for a group with IJV thrombosis only, and 59 percent for a group with concomitant internal jugular and subclavian/axillary deep venous thrombosis.⁵⁵

In the study of [Gbaguidi et al](#) the two main complications of the IJV thrombosis were: post-thrombotic syndrome (41.4 percent) and pulmonary embolism (10.3 percent).⁵⁶ [Boedecker et al](#) indicate other possible complications such as sepsis with septic emboli to different organs and tissues as well as intracranial propagation of the thrombus with cerebral edema.²

PROGNOSIS

[Chur et al](#) emphasize that there are 3 ways in which the thrombosis can develop:¹⁵

1. Thrombolysis and restoration of full/partial patency of the vein’s lumen.¹⁵
2. Reorganization of the thrombus, ie its replacement by connective tissue elements with obstruction of the lumen of the vein with a substrate that intergrows with the vein and
3. its removal becomes extremely difficult or impossible at all.¹⁵

In rare cases, purulent fusion of the thrombus occurs with the involvement of cellular tissue (cellulite), requiring drainage the purulent foci.¹⁵

CONCLUSIONS

A detailed report of our experience in diagnostics and treatment of a first unilateral and then bilateral internal jugular vein thrombosis in a chronic heroin user is presented. This article provides a practical overview (with 5 supplementary videos) of advantages of non-contrast CT and ultrasound upon different stages of thrombosis treatment, what

is critically important for oral and maxillofacial/head and neck surgeons.

PATIENT CONSENT

Patient provided written consent for the use of his images.

FUNDINGS

No funding was received for this study.

ACKNOWLEDGMENTS

None.

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Viewpoint

Intraoperative Look on Immediate Implant Placement in Anterior Maxilla with Exhibiting Periapical Lesions

Sir:

Infection in the site of immediate dental implantation became an investigation purpose of numerous studies.¹⁻³ Conclusions of the prominent reports:

1. Lindeboom et al's study based on fifty patients proved a survival rate of 92 percent for immediately placed implants in periapical infected site versus 100 percent for delayed implants (after a 3-month healing period).¹
2. Casap et al's results emphasized that 29 from 30 implants (immediately placed into debrided infected sites) were osseointegrated and functional when followed up after twelve to seventy-two months.³
3. Chrcanovic et al's systematic review of publications dedicated to analysis of implantation into infected sites showed positive results if meticulous cleaning, socket curettage/debridement, and chlorhexidine 0.12% rinse are performed.⁴

An illustrated review of Navaes et al presented a perfect guide for surgery in the infected sites into maxillary bone tissue.⁵ Supported the highlighted successful surgical steps⁵ we present a successful implantation (at 7-month follow-up) having: 1) profuse purulent discharge on the day of surgery, 2) lack of sufficient alveolar bone, and 3) with no usage of augmentation materials.

A 59-year-old Caucasian male presented with an unsuccessfully treated periapical lesions of the mobile teeth 1.1 and 2.1 (Fig 1A) and permanent halitosis due to purulent discharge. Two dental implants were placed obtaining primary stability

immediately after removal of teeth 1.1 and 2.1 with periapical lesions (Fig 1B), meticulous curettage, and rinsing by chlorhexidine 0.12%. Surgical step accompanied with a bleeding from a lateral incisive canal (*synonyms*: neurovascular variation in anterior palate, accessory canal of the anterior maxilla, and lateral incisor canal)⁶ located at the palatal aspect of the left central incisor's socket. Figure 2B demonstrates intraoperative stage of temporary crowns' producing. Oral clindamycin was prescribed 1 hour before surgery and continues 600 mg twice daily for 5 days. About 0.12 percent of chlorhexidine rinse twice a day until suture removal was also recommended.⁷ At 7-month follow-up cone-beam computed tomography showed a good bone union near osseintegrated implants.

Performing an immediate implantation into the tooth socket sites with periapical lesions, infection, and alveolar bone dehiscence is possible with a receiving a predictable functional and esthetic outcome in anterior maxilla. Two key factors of success in those cases are 1) thorough debridement of the site prior to placement and 2) primary stability.

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<http://dx.doi.org/10.23999/j.dtemp.2019.10.3>

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FIGURE 1. (A) Intraoral anterior view with purulent discharge from gingival sulci of the teeth (*arrowheads*) immediate before teeth extraction and dental implants installation. **(B)** Extracted teeth 1.1 and 2.1 with attached periapical lesions (*arrows*).

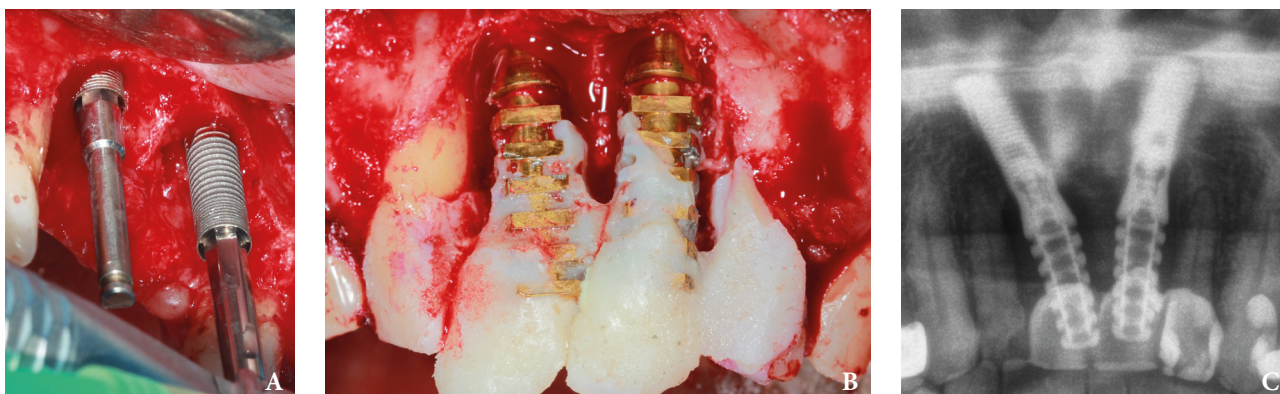


FIGURE 2. Intraoperative view at the stages of dental implants placement **(A)** and producing of temporary crowns **(B)**. Post-operative cropped panoramic radiography **(C)**.

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FUTURE EVENTS

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Tel Aviv, Israel

www.icmfs2019.com

3rd International Symposium on Medication Related Osteonecrosis of the Jaws (MRONJ)

November 15, 2019
Copenhagen, Denmark

<https://www.rigshospitalet.dk/english/departments/centre-of-head-and-orthopaedics/department-of-oral-and-maxillofacial-surgery/international-symposium-mronj/Documents/information-material-3rd-international-symposium-on-mronj-in-copenhagen.pdf>

21st International Congress of the Latin American Association of Bucomaxillofacial Surgery and the Mexican Association of Oral and Maxillofacial Surgery

December 1 – 4, 2019
Cancun, Mexico

www.cialacibu2019.com/en/welcome/

Dental Implant Conference

December 5 – 7, 2019
Chicago, Illinois, USA

<https://www.aaoms.org/meetings-exhibitions/2019-dental-implant-conference>

2020

2020 Principles of Head and Neck Oncology for the OMS

March 6 – 8, 2020
Chicago, Illinois, USA

<https://www.aaoms.org/education-research/2020-principles-of-head-and-neck-oncology-for-the-oms>

International Symposium on Orthognathic Surgery

April 30 – May 2, 2020
Vienna, Austria

www.iaoms.org/education/vienna2020/registration/registration/

1st ALACIBU & ACOMS International Meeting (1st International Meeting of Latin American Association of Bucomaxillofacial Surgery & American College of Oral & Maxillofacial Surgeons)

June 14 – 17, 2020
Hollywood, Florida, USA

www.acomsalacibu2020.com

25th Congress of the European Association for Cranio-Maxillo-Facial Surgery

September 15 – 18, 2020
Paris, France

www.eacmfs.org

American Association of Oral and Maxillofacial Surgeons:

102nd Annual Meeting, Scientific Sessions and Exhibition

October 5 – 10, 2020
San Antonio, Texas, USA

<https://www.aaoms.org/meetings-exhibitions/annual-meeting/102nd-annual-meeting>

2021

14th Quadrennial International Facial Nerve Symposium

August, 2021
South Korea

www.internationalfacialnerve.org

<http://dx.doi.org/10.23999/j.dtmp.2019.10.4>

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Submission of Articles

Papers for the Publication

- guest editorials
- pictures/videos in oral and maxillofacial surgery (it's a 1-page case without references)
- case reports/case series
- original papers
- surgical/radiological notes
- reviews/discussions of articles from other journals
- reports of new equipment, instruments or technical innovations
- book reviews
- letters to the Editor

Article and Abstracts

Article must be written in English.

The authors from the Russian-speaking countries must send an abstract of the article in Russian. The authors from Ukraine must send an abstract of the article in Ukrainian and Russian.

One co-author is denominated as the corresponding author with all contact details:

- Postal address (ZIP code of a country, City, Street, phone and fax number)
- E-mail address

The abstract should include full title of the article, full names and surnames of the co-authors, affiliation, scientific degree, specialty. Also the abstract should include short information about article content: purpose, material and methods, results, conclusions. Example how the Abstract should be looked like the authors can get from the published articles in current issue.

Figures and Tables

Photographs, CT and MRI images, sonograms should be submitted in original with resolution of at least 300 dpi and saved in JPEG or TIFF file format.

Fundings

The authors should indicate the sources of funding that were allocated for the preparation of the article, if such were the case.

Conflicts of Interest

At the end of the article the authors should specify about conflicts of interest (e.g., no conflict of interest).

Role of Co-authors in Writing

After specifying conflicts of interest the role of co-authors in writing of the article (concept and design of the study; material collection, material processing, statistical data processing, writing text, editing, etc.) should be designated.

Patient Consent

Written patient consent should be obtained to publish the clinical images of the patients.

Acknowledgments

The authors can acknowledge the persons or institutions which they helped or useful in writing an article.

The Journal is recommended to use that internet source for the articles preparing according to *Vancouver References Style*: <http://libguides.murdoch.edu.au/Vancouver/journal>

Examples How to Form a Reference List

List all references in numerical order in the text.

Making a list of references from articles, books, internet links, etc.:

Example for the articles:

Fernandes RP, Quimby A, Salman S. Comprehensive reconstruction of mandibular defects with free fibula flaps and endosseous implants. *J Diagn Treat Oral Maxillofac Pathol* **2017**;1(1):6–10.

Example for the articles with more than three authors:

Neto AMR, Monteiro JL, Borba PM, et al. TMJ's posterolateral dislocation with tympanic plate fracture – case report. *J Diagn Treat Oral Maxillofac Pathol* **2017**;1:59–64.

Example for the articles from the Journal Supplement:

Hammerle CH, Chen ST, Wilson Jr TG. Consensus statements and recommended clinical procedures regarding the placement of implants in extraction sockets. *Int J Oral Maxillofac Implants* **2004**;19(Suppl):26–8.

or

Hammerle CH, Chen ST, Wilson Jr TG. Consensus statements and recommended clinical procedures regarding the placement of implants in extraction sockets. *Int J Oral Maxillofac Implants* **2004**;19:S26–8.

Examples for the book chapters:

Yuen HY, Ahuja AT. Benign clinical conditions in the adjacent neck. In: Sofferman RA, Ahuja AT, editors. *Ultrasound of the thyroid and parathyroid glands*. Springer, **2012**:229–33.

Example for the books:

Baskin J, Duick D, Levine R. *Thyroid ultrasound and ultrasound guided FNA*. 2nd ed. New York: Springer; **2008**.

Example for the PhD/ScD work (dissertation for candidate/doctor of science):

Borkowski MM. *Infant sleep and feeding: a telephone survey of Hispanic Americans*. PhD [dissertation]. Mount Pleasant (MI): Central Michigan University; **2002**.

Kopchak AV. *Clinico-biological and biomechanical study of methods for surgical treatment of mandibular fractures*. ScD [dissertation]. Kyiv: Bogomolets National Medical University; **2014**.

Example for references in Cyrillic:

Please indicate the language of writing in square brackets [Ukrainian] or [Russian].

Tymofieiev OO. *Manual of maxillofacial and oral surgery* [Russian]. 5th ed. Kyiv: Chervona Ruta-Turs; **2012**.

Tymofieiev OO. *Diseases of the salivary glands* [Ukrainian]. 1st ed. Lviv: VNTL-Klasyka; **2007**.

Examples for the internet links:

Seave A. Elsevier CEO using unique data sets and analytic processes to maintain competitive edge. *The Forbes*. February 25, 2016. Available at: <https://www.forbes.com/sites/avaseave/2016/02/25/elsevier-ceo-using-unique-data-sets-and-analytic-processes-to-maintain-competitive-edge/#1d9e4b3979c2/>. Accessed February 25, 2016.

Adult improving access to psychological therapies programme. NHS England. Available from URL:

<https://www.england.nhs.uk/mental-health/adults/iapt/> (last accessed 3 March **2017**).

McManus S, Meltzer H, Brugha T, et al., editors. *Adult psychiatric morbidity in England, 2007: results of a household survey*. The NHS Information Centre for health and social care; 2017. Available from URL: <http://www.hscic.gov.uk/catalogue/PUB02931/adul-psyc-morb-reshou-sur-eng-2007-rep.pdf> (last accessed 3 March **2017**).

Example for conference paper in print proceedings:

Christensen S, Oppacher F. An analysis of Koza's computational effort statistic for genetic programming. In: Foster JA, Lutton E, Miller J, Ryan C, Tettamanzi AG, editors. *Genetic programming: EuroGP 2002: Proceedings of the 5th European Conference on Genetic Programming; 2002 Apr 3-5; Kinsdale, Ireland*. Berlin: Springer; **2002**. p. 182-91.

Example for conference paper from the internet:

Cloherly SL, Dokos S, Lovell NH. Qualitative support for the gradient model of cardiac pacemaker heterogeneity. In: Proceedings of the 2005 IEEE Engineering in Medicine and Biology 27 Annual Conference; 2005 Sep 1-4; Shanghai, China. New York: IEEE; **2005** [cited 2010 Sep 2]. p. 133-6. Available from: IEEE Xplore.

Example for A-V materials (DVD):

Acland RD, presenter. Acland's DVD atlas of human anatomy [DVD]. Baltimore (MD): Lippincott Williams & Wilkins; **2004**.

Example for A-V materials (YouTube/Vimeo video):

NRK. Medieval helpdesk with English subtitles [video file]. **2007** Feb 26 [cited 2014 Jan 28]. Available from: <http://www.youtube.com/watch?v=pQHXSjgQvQ>

Example for A-V materials (Video recording):

Hillel J, writer. Out of sight out of mind: indigenous people's health in Australia [videorecording]. Bendigo: Video Education Australasia; **2003**.

Example for Readers/Study Guides:

Lynch M. God's signature: DNA profiling, the new gold standard in forensic science. Endeavour. 2003;27(2):93-7. Reprinted In: Forensic Investigation (BIO373) unit reader for forensic DNA component. Murdoch (WA): Murdoch University; **2005**.

Example for newspaper articles in print:

Hatch, B. Smoke lingers for those who keep hospitality flowing. Australian Financial Review. **2006** Jul 13: 14.

Example for newspaper article from the internet:

Devlin, H. Neuron breakthrough offers hope on Alzheimer's and Parkinson's. The Times [newspaper on the Internet]. **2010** Jan 28 [cited 2010 Jan 31]. Available from: <http://www.timesonline.co.uk/tol/news/science/medicine/article7005401.ece>.

Example for conversation citation:

In a conversation with a colleague from the School of Population Health (Jameson LI **2002**, oral communication, 7th August)...

Example for e-mail citation:

Smith P. New research projects in gastroenterology [online]. E-mail to Matthew Hart (mh@hospital.wa.gov.au) **2000** Feb 5 [cited 2000 Mar 17].

Spelling and Grammar Check

The article should be 'spell checked' and 'grammar checked'. You can use American or British usage, but do not use mixture of them. Authors for whom English is not their native language should add an editing certificate (the international company that can provide editing is: www.enago.com).

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The journal offers the free access to all articles guiding by the main principle of the journal policy, to give a possibility to colleagues from all countries (even from low-income) to use data for the development of specialties related with Oral and Maxillofacial Area.

Editorial of the Journal independently assigns for the articles Index of the Universal Decimal Classification (UDC) according to the requirements of Higher Attestation Commission of Ukraine and Digital Object Identifier (DOI) according to the international standards.

Questions?

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Founded in 1996

Mission Statement of the Association

We unite, lead, and develop the maxillofacial community to accelerate theoretical and practical movement forward and improve worldwide.

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Information about medicines. Information for health care professionals for use in professional activities.

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2. <http://www.angelini-pharma.com/wps/wcm/connect/com/home/Angelini+Pharma+in+the+world/>

3. Тимофеев А.А. и др. "Особенности гигиены полости рта для профилактики воспалительных осложнений при переломах нижней челюсти". Современная стоматология 2015;1(75):52-8.

4, 4.5. Tymofiejew O.O. et al "Prevention of inflammatory complications upon surgeries in maxillofacial region". J Diagn Treat Oral Maxillofac Pathol. 2017;1:105-12.

Clinical and CT images are courtesy of: Ievgen Fesenko (Department of Oral & Maxillofacial Surgery, PHEI "Kyiv Medical University", Kyiv, Ukraine), Oleg Mastakov ("SCIEDECE—Scientific Center of Dentistry & Ultrasound Surgery" Kyiv, Ukraine)



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