

РЕЗИЮМЕТА

на научните публикации на

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във връзка с участие в конкурс за придобиване на академичната длъжност

„доцент” по научната специалност „Медицинска радиология и

рентгенология (вкл. използване на радиоактивни изотопи)”, професионално

направление 7.1. Медицина, област на висше образование 7. Здравеопазване

и спорт към катедра „Медицинска физика, биофизика, рентгенология и

радиология”, Медицински факултет, Тракийски университет – Стара

Загора, обявен в ДВ, бр. 68/ 31.07.2020 г

1. Valkanov St, Valkanov P, Kirkov M, Iliev I, Mitev M, Milanova V, Velev V, Galabova M, Proichev V. Trans-sulcal microsurgical approach to glial cerebral tumors. *Trakia Journal of Sciences* **2012**; 10(2):247-250. ISSN 1313-7050 (print) ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – 6.67 т

ABSTRACT

Objective: The surgical treatment of cerebral metastases is an everyday problem in neurosurgical practice. The subject of treatment is mostly single metastases of the brain. To minimize therapeutic morbidities, such as cortical injuries, a transsulcal approach was applied by taking the results of neuroimaging into consideration. We aimed at introducing in the everyday clinical practices this approach to the surgical treatment of this pathology. Methods: We present 61 cases of intra-cerebral metastases treated surgically by trans-sulcal microsurgical approach at the Neurosurgical Clinic of Stara Zagora University Hospital. 39 of them are men and 22 are women, aged 42 to 69. According to the outcome of CT and MRI, the chosen sulcus was opened toward the lesion. Following complete dissection of the sulcus to remove the lesion. Results: The trans-sulcal microsurgical access was successfully conducted. In the early postsurgical period, all patients experienced a regress of the neurological deficit and improvement of the overall condition. Conclusion: The trans-sulcal microsurgical approach ensures less traumatic surgical interventions and preserves as much as possible the physiological and anatomical structures of the cerebrum.

Key words: trans-sulcal approach, metastases – surgical treatment

2. Valkanov St, Valkanov P, Kirkov M, Iliev I, **Mitev M**, Milanova V, Velev V, Galabova M, Ananiev J, Popkharitov A. Microsurgical treatment of intra-cerebral hypertensive putaminal hematomas using trans sylvian approach. *Trakia Journal of Sciences* **2012**; 10(2): 251-255. ISSN 1313-7050 (print) ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – 6 т

Abstract

OBJECTIVE: The treatment of putamenal hypertensive hematomas is a current problem in everyday neurosurgical practice. They are about 45% of all hypertensive hematomas. We aimed at routinely introducing in the everyday clinical practices the trans-sylvian microsurgical approach to the surgical treatment of this severe pathology. **MATERIAL AND METHODS:** We present 63 cases of hypertensive putamenal hematomas treated surgically by trans-sylvian microsurgical approach at the Neurosurgical Clinic of Stara Zagora University Hospital. 43 of them are men and 20 are woman, aged 38 to 80. **RESULTS:** The surgical interventions for 53 of the patients through trans-sylvian microsurgical approach went without any complications. In the early post-surgical period, all patients experienced a regress of the neurological deficit and improvement of the overall condition. In 10 patients the condition was aggravated by the concomitant somatic diseases which led to lethal end. **CONCLUSION:** The trans-sylvian microsurgical approach ensures less traumatic surgical interventions, preserving as much as possible the physiological and anatomical structures of the brain. In this approach injury of temporal cortex is avoided which is important to the dominant hemisphere. The surgical intervention creates the least amount of discomfort for the patient and the recovery post-surgical period is fast and with minimum complications.

Key words: trans-sylvian approach, hypertensive hematoma – surgical treatment

3. Valkanov St, Valkanov P, Kirkov M, Iliev I, **Mitev M**, Milanova V, Velev V, Galabova M, Popkharitov A. Trans-sulcal microsurgical approach to intra-cerebellar lesions – technical note. *Trakia Journal of Sciences* **2012**; 10(2):256-258. ISSN 1313-7050 (print) ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – 6.67 т

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Key words: trans-sulcal approach, metastases – surgical treatment

4. Valkanov St, Valkanov P, Ananiev J, Kirkov M, Atanasov A, Lazarov D, **Mitev M**, Velev V, Galabova M. Congenital dermal sinus – Case Report. *Trakia Journal of Sciences* **2012**; 10(2):259-261. ISSN 1313-7050 (print) ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – 6.67 т

Abstract

Congenital dermal sinus represents an ectodermal invagination extending from the derma to the sublaying neural structures often presenting in childhood with skin findings, neurologic deficit, or infection. It may be situated all along the cranio-coccygeal axis. We present a case of innate anomaly in lumbar region in 7-month suckling treated repeatedly about uncleared febrilities. Several weeks before being hospitalized in the clinic the baby stopped to move its inferior limbs. In the region of L5-S1 a swelling is visible with measures 1,5/1,5 cm secreting yellowish liquid. In early post-operative period a regress is marked in neurological deficit – interior paraplegia passed into paraparesis and till the dischargement are observed limited in volume and strength movements in all joints of interior limbs. Finally we can say that all patients with innate dermal sinus must be offered aggressive surgical treatment by total excision of the tract and correction of spinal malformation, as soon as possible after being diagnosed. The chance of regress in neurological deficit or prevention of its appearance is big.

Key words: spinal dermal sinus, dermoid cyst, spinal dysraphism

5. Valkanov St, Valkanov P, Kirkov M, Iliev I, **Mitev M**, Milanova V, Velev V, Galabova M, Ananiev J, Proichev V. Trans-sulcal microsurgical approach to intra-cerebral metastases. *Trakia Journal of Sciences* **2012**; 10(3):77-79. ISSN 1313-7050 (print) ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – 6 т

ABSTRACT

Objective: The surgical treatment of cerebral metastases is an everyday problem in neurosurgical practice. The subject of treatment is mostly single metastases of the brain. To minimize therapeutic morbidities, such as cortical injuries, a transsulcal approach was applied by taking the results of neuroimaging into consideration. We aimed at introducing in the everyday clinical practices this approach to the surgical treatment of this pathology. **Methods:** We present 61 cases of intra-cerebral metastases treated surgically by trans-sulcal microsurgical approach at the Neurosurgical Clinic of Stara Zagora University Hospital. 39 of them are men and 22 are women, aged 42 to 69. According to the outcome of CT and MRI, the chosen sulcus was opened toward the lesion. Following complete dissection of the sulcus to remove the lesion. **Results:** The trans-sulcal microsurgical access was successfully conducted. In the early postsurgical period, all patients experienced a regress of the neurological deficit and improvement of the overall condition. **Conclusion:** The trans-sulcal microsurgical approach ensures less traumatic surgical interventions and preserves as much as possible the physiological and anatomical structures of the cerebrum.

Key words: trans-sulcal approach, metastases – surgical treatment

6. Gerenova J V, Mateeva V M, Prodanova D I, Valkanova G P, **Mitev M A**, Obretenov E D. Casus pro diagnosi. *Engocrinologia* 2015; 20(1):52-55. ISSN 1310-8131 [In Bulgarian] (**Scopus, SJR=0.124**; <https://randii.nacid.bg/register/search> ID № 2403 за рефериране в Scopus до 2017) – 10 т

Представени са два клинични случая. Първият случай е на 67 годишен мъж, получил внезапен тремор на горни и долни крайници, придружен с мускулна слабост, загубил контрол и паднал, но без загуба на съзнание и със запазен контрол на тазовите резервоари. Съобщават се резултатите от проведените инструментални изследвания,

электрография на щитовидната жлеза, КТ на главен мозък – нативно. КТ изследвания показват леко разширени субарахноидни пространства по конвекситета, както и двустранно симетрично наличие на неправилни калцификати в областта на базални ядра, таламус, нуклеус каудатус, нуклеус лентиформис, нуклеус дентале и субкортикална бяла материя. Пациентът е хоспитализиран по спешност в Неврологична клиника с работна диагноза – епилептичен статус, няколко дни след проведеното изследване. Вторият случай е на 60 годишен мъж, който по време на сън прави припадък с характеристика на Гранд мал със загуба на съзнание, тонично-клоничен гърч и изпускане на тазовите резервоари. Приет е в Общинска болница с диагноза епилепсия. След изписването му, въпреки лечението, гърчовете зачестяват. На извършената КТ на главен мозък са установени калцификати на базалните ганглии. От 2-3 години пациентът е със схващане на устата, горните и долните крайници тип „акушерска ръка”, скованост, тремор и хипокинетична походка. Поставена е диагноза Паркинсонова болест и е препоръчано лечение. Пациентът поддържа нормално артериално налягане, но съобщава за периодично стягане в областта на гърдите и наличие на окологлезенни отоци. Проведени са лабораторни и инструментални изследвания. Рентгенографията на белия дроб и сърцето показва двустранни плеврални изливи, маркиран инерлоб в дясно, удължена лявокамерна дъга. При рентгенография на черепа са наблюдавани остеосклеротични промени в ламина интерна и ламина екстерна. В резултат на КТ на главен мозък – нативно, двустранно симетрично е установено наличие на калцификати в областта на базалните ядра, таламуса, нуклеус каудатус, нуклеус лентиформис, нуклеус дентале и кортикална бяла материя, др. Предложена е дискусия по двата казуса за най-вероятно ендокринно заболяване, за връзката между неврологичния статус и лабораторните отклонения, за влиянието на придружаващите сърдечни и белодробни заболявания върху основното заболяване, за терапевтичната схема и възможните усложнения при неадекватно лечение.

7. Gerenova J V, Mateeva V M, Prodanova D I, Valkanova G P, **Mitev M A**, Obretenov E D. Cassus pro diagnosi. Two cases of Fahr’s syndrome with hypoparathyroidism. *Engocrinologia* 2015; 20(2):106-116. ISSN1310-8131 [In Bulgarian] (**Scopus, SJR=0.124**; <https://randii.nacid.bg/register/search> ID № 2403 за реферирание в Scopus до 2017) – **10 т**

Fahr's Syndrome (FS) refers to bilateral basal ganglia calcification that is associated with many neurological and psychiatric abnormalities and appears as secondary to other diseases. The most frequent aetiology of this syndrome is, together with idiopathic cause and genetic infections diseases, calcium disorders, mainly primary hypoparathyroidism. We described two cases of FS patients who were admitted to the Emergency Department of the University Hospital of Stara Zagora with muscle cramping, seizure and involuntary movements. We also observed mood and emotional disorders. A CT scan showed bilateral calcifications in basal ganglia, thalamus, caudate nucleus, lenticular nucleus, dentate nuclei and subcortical white matter. Laboratory tests showed hypocalcemia caused by idiopathic hypoparathyroidism. A chest x-ray (patient Clinical case 2) demonstrated cardiac enlargement and bilateral pleural effusions. No other cardiac or lung diseases including tuberculosis, viral myocarditis and coronary or hypertensive heart disease were identified. In addition to hypocalcemia, the mechanism of the development of cardiomyopathy. In hypoparathyroidism might include hypomagnesemia. After including in therapeutical schema calcium, vitamin D and magnesium drugs the clinical course of the disease improved. Observations suggest that physicians should be aware that hypocalcemia can be a reversible cause of cardiomyopathy and congestive heart failure. Primary hypoparathyroidism should be kept in mind when diagnosing Fahr's Syndrome. Treatment with calcium and vitamin D supplementation demonstrate great clinical improvement.

Key words: Fahr's Syndrome, basal ganglia calcification, primary hypoparathyroidism, cardiomyopathy.

8. Chakarova B, Chakarov I, Marinov R, Ivanov I, Hristova M, **Mitev M.** Errors and diagnostic difficulties in the pediatric practice. *Trakia Journal of Sciences* **2016**; 4:398-402. doi:10.15547/tjs.2016.04.016 ISSN 1313-7050 (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАИИД) – 10 т

ABSTRACT

The medical error is defined as a professional misconduct - most often it comes down to: - errors in diagnosis; treatment errors; errors in subsequent medical care, i.e. improper behavior implementation; errors, which exceed the limits of the free medical choice – i.e. freedom of action. One of the most common mistakes is a discrepancy between the initial and the final diagnosis of sick children with a cardiovascular system disease, especially when heart murmur is observed. - patients whose heart murmur is assessed innocent and the final diagnosis is

cardiomyopathy -initial diagnosis is cardiomyopathy, and the final diagnosis is normal hearth
We present three clinical cases with a potential risk of evaluation error in the clinical condition, related to diseases of the cardiovascular system. The presented patients with the aforementioned nosological entities are indicative of the difficulties in determining a correct clinical diagnosis, respectively conducting an effective treatment and risk prevention from fatal ending of the described severe diseases. The medical error, there is only one single importance - it gives a lesson to everyone else!

Key words: ALCAPA, Heart failure, Bland-White-Garland syndrome

9. Mitev M, Trajkova N, Arabadzhiev D, Valkanov S, Obretenov E. Virtual computed tomography bronchoscopy in tracheal ruptures. *Roentgenologia i Radiologia* 2017d; 3(56):177-184. ISSN 0486-400X [In Bulgarian] (**Scopus, SJR₂₀₁₆=0.1; ID № 738** <https://randii.nacid.bg/register/search>) – 12 r

Abstract. Traumatic injuries of the main airways are rare in medical practice but extremely life-threatening conditions. Fiberoptic bronchoscopy is a standard diagnostic method for proving them. Virtual bronchoscopy by 3D MDCT reconstructions allows visualization and evaluation of the integrity of the walls of the trachea and the main bronchi and their lumen changes. The aim of the study is to share authors experience in evaluating the diagnostic capabilities of MDCT virtual bronchoscopy compared to Fiberoptic bronchoscopy for traumatic injuries of main airways. 19 patients (5 men and 14 women, between 11 to 82 yaers old) with FB proven traumatic injuries of the trachea were examined. MDCT virtual bronchoscopy during the period 2009-2016, findings of both methods were compared. For FB – “Olympus BF PE2” and “Fujinon EP-120T” was used. VB were performed to a Philips CT “Essenza”, and 64 Siemens MDCT “Definition AS” with appropriated protocols. The diagnostic capabilities of VB compared to FB at trachea ruptures were evaluated on the approved criteria. The patients were divided into three groups according to the etiopathogenesis. The largest number of cases are post-intubation lesions; (75%) (2 men and 13 women), followed by post-traumatic lesions; (15%), (one woman and two men). Mucosal erosion after instrumental manipulation; was found in one man. In two patients both Fiberoptic and Virtual bronchoscopy established two lesions. Fiberoptic bronchoscopy reported a negative result in one patient, Virtual bronchoscopy in two. VB in this study shows a high degree of sensitivity in the assessment of tracheobronchial ruptures (89.5%). Results fully comparable with FB. VB is effective method competitive to FB for the detection of traumatic

injuries of the main airways. Its success rate correlate with the location and size of the rupture and is more precise for lesions ≥ 7 mm.

Key words: FIBEROPTIC BRONCHOSCOPY, MDCT, VIRTUAL BRONCHOSCOPY, TRACHEA, RUPTURES

10. Pekova L, Parousheva P, Rachkova K, Tsoneva V, Naydenov K, **Mitev M**, Tsachev I. Clinical Characteristic of *Listeria Monocytogenes* Neuroinfections. *Nauka Infectologia/ Parasitologia* **2017**; 1(14):44-48. ISSN 1314-2429 [In Bulgarian] – **4.25 т**

Абстракт

Listeria monocytogenes е третият по честота етиологичен агент, отговорен за възникването на бактериални невроинфекции. Цел: Да се характеризират клиничните прояви при листерийните невроинфекции. Материали и методи: За период от 17 години (1999-2016) през Клиниката по инфекциозни болести на УМБАЛ „Проф. Ст. Киркович” АД, гр. Стара Загора, са преминали 13 случая на невроинфекции, причинени от *Listeria monocytogenes*. Това са 5 жени и 8 мъже на възраст от 10 дни до 81 години. При всички са направени клинични, епидемиологични, лабораторни и инструментални изследвания. Преживелите пациенти са проследени до 3-тия месец след острата фаза на заболяването. Получените резултати са обработени с помощта на статистическа програма SPSS v. 14. Резултати и обсъждане: Заболяването започва остро при повечето пациенти с характерна триада – главоболие, повръщане и температура. Неврологичните симптоми от МРС са демонстративно проявени при 5 и частично – при 8 пациенти. Ликворната находка съответства на сериозен възпалителен процес при 9 души. Поражения на 5, 7 и 8 ч.м.н. се наблюдават предимно при изява на енцефалит. Ранни количествени промени в съзнанието утновихме при 9 пациенти с менингоенцефалит. При всички е приложена адекватна етиологична терапия с парентерален Ампицилин в съчетание с аминоглюкозид. Благоприятен изход с пълно оздравяване има при 3 пациенти, оздравяване с остатъчни прояви – при 6, и летален изход – при 4. Заключение: *Listeria monocytogenes* следва да се подозира при тежко протичаща невроинфекция у имунокомпрометирани пациенти с непълно изявен менингеален синдром, левкоцитоза и сериозни възпалителни промени на ликвора с хипогликорахия. Понижените нива на натрий в серума и ликвора се асоциират с лош изход от

заболяването. Ранното включване на Ампицилин към останалата антибактериална терапия подобрява изгледите за благоприятен изход.

Ключови думи: *Listeria monocytogenes*, невроинфекция, клинични прояви

11. Pekova L, Parusheva P, Rachkova K, Naydenov K, Tsoneva V and **Mitev M.** *Listeria monocytogenes* Meningoencephalitis in Immunocompetent Patient - Clinical Course and Outcome. *Ann Clin Lab Res* **2017**; 5(3):191-193, doi:10.21767/2386-5180.1000191 ISSN 2386-5180 (**IF₂₀₁₆=0.727** **Publons/Web of Science; Index Copernicus Value: 58.35**) – 10 т

Abstract

Listeria monocytogenes is the third most frequent cause of bacterial meningitis. It was an unusual etiological agent in immunocompetent patients. We described a 29-yearsold male patient with *L. monocytogenes* sepsis with meningoencephalitis hospitalized in the Clinic of Infectious Diseases, University Multiprofile Hospital of Active Treatment, Stara Zagora, Bulgaria. His initial complaints were headache, nausea and vomiting. At the admission, clinical examination showed severe meningeal irritation-neck stiffness and signs of Brudzinski, Kernig and Babinski. Cerebrospinal fluid (CSF) was slightly opalescent with changes as with viral infection of the central nervous system (CNS). Causative agent *L. monocytogenes* was proven from CSF and blood. The disease was very severe. Changes in consciousness and acute respiratory and cardiovascular failure imposed a two-month stay in intensive care unit. The patient was discharged after a hospital stay of 125 days. Within two years thereafter he was fully recovered without residual manifestations.

Keywords: *Listeria monocytogenes*; Meningoencephalitis; Immunocompetent patient.

12. Ribarova V, Valchev D, Valkanov S, **Mitev M.** Esophageal rupture - Boerhaave syndrome – case report. *Roentgenologia i Radiologia* **2017**; 3(56):208-2011. ISSN 0486-400X [In Bulgarian] (**Scopus, SJR₂₀₁₆=0.1; ID № 738** <https://randii.nacid.bg/register/search>) – 15 т

Резюме

Перфорацията на хранопровода е животозастрашаващо състояние с висока степен на смъртност и все още остава основен хирургически проблем. Когато са налице типичните признаци и симптоми на повръщане, гръдна болка и подкожен емфизем,

състоянието може лесно да бъде диагностицирано. За съжаление симптомите в повечето случаи са нетипични и водят до затруднения при диагностицирането. В тези случаи може да се извърши КТ, за да се разпознае състоянието и да се постигне добър резултат. Хирургичното лечение остава важен вариант за много пациенти. Представяме клиничен случай на 68-годишен мъж с атипични симптоми на перфорация на хранопровода. Тя е диагностицирана с КТ, като по-късно пациентът е опериран.

Ключови думи: руптура на хранопровода, синдром на Boerhaave, КТ.

13. Pekova L, Parousheva P, Tzoneva V, Naydenov K, **Mitev M**, Petrov D, Angelova S, Korsun N. Influenza-Associated Neurological Complications - Clinical Course and Prognostic Factors. *Vaccines & Vaccination* **2018**; 3(2):000124 (Open Access). <https://medwinpublishers.com/VVOA/VVOA16000124.pdf> ISSN 2578-5044 **(IF=0.74 Publons/Web of Sciences; Index Copernicus Value: 94.79) – 7.5 T**

Abstract

Acute influenza-associated encephalopathy/encephalitis (IAE) in children and adults is not so common but very serious and sometimes fatal neurological complication. The purpose was to show clinical and laboratorial peculiarities in this condition and to indicate some prognostic factors. Materials and methods: In a period of three years (2014-2017) through the Clinic of Infectious diseases at the University Hospital in Stara Zagora, Bulgaria 7 patients with this neuroinfection were passed. They were aged between 3 and 42 years. Clinical, epidemiological, laboratorial and instrumental investigations were accomplished in all patients. The results were processed with statistical program SPSS for Windows, v. 14. Results and discussion: Clinical manifestations appeared in 5 patients with an initial convulsion usually within 24-72 hours after the acute onset of the disease and quantitative changes in consciousness to coma in 3. Clinical manifestations of meningeal irritation were detected in only two patients Laboratory blood tests showed in 3 patients' elevated levels of leucocytes and amino transferases, high urea, glucose and creatinin. The findings of cerebrospinal fluid in them indicated albumin values from 1,0 to 6,0 g/l and increased glucose from 4,5 to 21 mmol/l. All of these three patients ended up with a fatal outcome. Their pathological outcomes detected necrotizing encephalopathy. The remaining 4 patients were fully recovered except for one in which there is a 7 cranial-brain nerve paresis as a residual symptom. The diagnosis was confirmed by clinical and epidemiological data, but also by serological (ELISA) in blood investigations and virological (PCR) in nasal swabs and also in

autopsy material. In all but one influenza A virus was detected. Influenza virus B strain Victoria was detected with him. All patients were treated with Oseltamivir in appropriate doses. None of them were vaccinated against influenza. Conclusion: IAE had a well-known clinical course. Some extremely elevated laboratorial changes as amino transferases, blood sugar and urea may predict a lethal outcome. IAE was a complication which could be avoid by specific vaccine use.

Keywords: Influenza; Neurological Complications; Outcome

14. **Mitev M A**, Valkanov S, Ribarova V, Parvanova B. Suitability of the modality Virtual bronchoscopy with aspiration of a foreign body. *Trakia Journal of Sciences* **2018**; 3:224-232. doi:10.15547/tjs.2018.03.009 ISSN 1313-7050 (print) ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – **15 T**

ABSTRACT

Aspirations of foreign bodies are life-threatening among children and elderly patients requiring urgent medical assistance. The aim of the study is to present summarized results from various authors' studies to reveal VB's diagnostic abilities for suspected aspiration of a foreign body. VB has been shown to be a particularly useful non-invasive modality for the complex tracheobronchial tree assessment for suspected aspiration of a foreign body due to its high sensitivity, specificity and validity. MDCT VB with MPR allows accurate localization of the foreign body, but in secondary inflammatory changes and secretions it does not provide accurate information about the form and type of the finding. VB cannot replace FB ("gold standard") but successfully supports and complements it. MDCT could provide early diagnosis in cases of suspected aspiration of a foreign body in children and adults and avoid real bronchoscopy in patients with poor overall condition.

Key words: Foreign body, Multidetector computed tomography, Virtual bronchoscopy

15. Valchev D, Obretenov E, **Mitev M**, Petrov D. Controlled Esophagocutaneous Fistula with a T-Tube Drainage as a Method of Control of Late Diagnosed Perforation of Acute Oesophageal Ulcer. *Ann Case Rep* **2018**; ACRT-154, 1:1-5. doi: 10.29011/2574-7754/100054 ISSN 2574-7754 (**IF=0.92**) – **7.5 T**

Summary

Oesophageal ulcers are a rare pathological finding and usually they are not reason for consideration. The complications they can cause are strictures of the oesophagus as a result of callous chronic ulcer, acute haemorrhage from an oesophageal ulcer or chronic bleeding with development of post-haemorrhagic anaemia, formation of an oesophageal-bronchial fistula, malignant degeneration and perforation with development of mediastinitis and empyema. They occur most frequently in the lower third of the oesophagus, where it is located on the left of the spinal column, just before the card oesophageal junction. Oesophageal ulcers with a higher location to the border between the lower and the middle third of the oesophagus, have also been reported. These ulcers often occur along with a duodenal ulcer and duodenal gastroesophageal reflux. Due to late acceptance of the diagnosis, in most cases after development of mediastinitis and empyema, the treatment is very difficult and with high death rate and incidence rate. The surgical method of treatment with T-tube drainage for release of the oesophageal lumen and the adequate drainage of the mediastinum and the pleural cavity become more and more common in comparison to the conventional methods with removal of the oesophagus and creation of esophagogastrostomy, used widely in the past.

Keywords: Perforated ulcer; Reflux; T-tube catheter

16. Valchev D, Mitev M, Obretenov E, Kostadinov D, Petrov D. Combination of Hodgkin,s Lymphoma and Tuberculosis occurred with Bileteral malignan Pleural Effusions. *Ann Case Rep* **2018**; ACRT-169. doi:10.29011/2574-7754/100069 ISSN 2574-7754 (**IF=0.92**) – 6 т

Abstract

Simultaneous occurrence of tuberculosis and lymphoma is a rare combination. A primary malignant disease such as Hodgkin's disease (HD) can cause inhibition of cell-mediated immunity, which predisposes to concomitant tuberculosis infection. A congenital and acquired immune deficiency, the presence of autoimmune diseases suggests the development of tuberculosis. There is a close link between infectious mononucleosis caused by the Epstein-Barr virus and the development of Hodgkin's disease. We are describing a patient, aged 52 with simultaneous occurrence of tuberculosis combined with Hodgkin's lymphoma in a single cervical lymph node material developed with bilateral malignant pleural effusions and ascites, as the Hodgkin's disease has been determined at IV stage according to the Ann Arbor criteria.

Keywords: Cervical Lymphadenopathy; Hodgkin's Lymphoma; Mediastinal Lymphadenopathy; Tuberculosis

17. Ilinov Z, Obretenov E, Gulubova M, **Mitev M**, Ananiev J. P57 Role of TGF-beta1 pathway and non-small cell lung cancer. *J Cardiothorac Surg* **2019**; 14(1):154. doi: 10.1186/s13019-019-0971-2; PMCID: PMC6728942; PMID: 31488165 ISSN 1749-8090 (**Q2, SJR₂₀₁₉=0.65, Scopus; h 40; IF₂₀₁₉=1.47, Web of Science**; <https://www.scimagojr.com/journalsearch.php?q=39613&tip=sid&clean=0>) – **12 r**

Abstract

Background Non-small cell lung cancer (NSCLC) is still one of the most frequent and lethal neoplasm. Different prognostic biomarkers in a disease provide information regarding progression and therapy opportunities. The aim of the present study was to evaluate the tissue expression of TGF-beta1 and TGF-beta RII and the relation with NSCLC development.

Materials and methods Biopsy specimens from 43 patients with NSCLC (stage I to IIIA incl, radically operated) were examined for the presence of TGF-beta1 and TGF-beta RII by immunohistochemistry. The correlation between expression of the markers and patient clinicopathological parameters was evaluated. **Results** After analysis we found that 41.9% had high cytoplasmic TGF-beta1 expression and 30.2% was expressed on tumor cell membranes receptor-TGF-beta RII. The protein and its receptor correlated positively in 33.7% of cases ($\chi^2=4.09$; $p=0.025$). In addition we found that 20.9% of TGF-beta1 positive cases had lymph node metastasis ($\chi^2=3.56$; $p=0.031$). Also, compared TGF-beta1/TGF-beta RII expression and clinical stage distribution showed tendency. **Conclusions** This results suggest that TGF-beta1 and his receptor –RII may play an important role in development and progression of NSCLC.

18. **Mitev M**. Evaluation of the trachea and bronchi for infiltration and ruptures of a neoplastic process originating from the thyroid gland. *Oto Rhino Laryngology International Bulletin* **2019**; 15(4):33-37. ISSN 1312-6997 (Print) ISSN 2367-878X (Online) – **30r**

Abstract

Background: evaluation of the trachea and bronchi for infiltration and ruptures of a neoplastic process originating from the thyroid gland. **Methods:** virtual bronchoscopy with multidetector

computed tomography; standard criteria. Results: The present is a case of changes in the shape of the trachea from external compression, stenosis and dislocation, diagnosed with virtual bronchoscopy in a woman of 57 years, as a result of a tumour formation, originating from the thyroid gland (struma nodosa). The described morphological characteristics of the findings from the axial and multiplanar reconstructions of the native and intravenous post-contrast computed tomography point to the benign characteristics of the formation. Conclusions: with virtual bronchoscopy, the degree of stenosis and its length can be established, a lack of infiltration of the wall by the formation can be proved, as well as the absence of enlarged lymph nodes. Virtual bronchoscopy allows making evaluation of the carina. VB of the CT examination did not detect infiltrations and abnormalities of the wall as fistulous passages, and no evidence of tracheal and bronchial ruptures from the described neoplastic process.

Keywords: Virtual bronchoscopy, Thyroid carcinoma, Tracheal rupture

19. Pekova L, Popov G, Mitev M. Unique Case of Severe *Morganella Morganii*. Meningitis in Patient with Spina Bifida Oculata and Dermal Sinus. *Vaccines & Vaccination* 2019; 4(1):000129 (Open Access). https://www.researchgate.net/publication/340389396_Vaccines_Vaccination_Open_Access_A_Unique_Case_of_Severe_Morganella_Morganii_Meningitis_in_Patient_with_Spina_Bifida_Oculata_and_Dermal_Sinus_A_Unique_Case_of_Severe_Morganella_Morganii_Meningitis_in_P DOI: 10.23880/vvoa-16000129 ISSN 2578-5044 **(Publons/Web of Sciences; Index Copernicus Value) – 20 r**

Abstract

This case report is about a 13-year-old male patient who had spina bifida oculata at L5-S1, combined with dermal sinus. He was admitted in the Clinic of Infectious Diseases of a University Hospital in Stara Zagora with typical clinical signs of acute meningitis. Based on the anamnestic, clinical, laboratory, microbiological, virological and imaging methods, bacterial meningitis caused by *Morganella morganii* was diagnosed. The disease had a prolonged, severe course requiring rehospitalisation and prolonged treatment. The causative agent was only cultivated in CSF, while blood, urine and copro cultures were negative. Antibacterial treatment, despite the wide range of susceptibility of the causative agent, did not result in a favorable response. The combination of conservative and operative therapy lead to eradication of the infection

and recovery.

Keywords: *Morganella Morganii*; Meningitis; Spina Bifida; Dermal Sinus

- 20.** Chakarova B, **Mitev M.** An overview of the distribution and possible methods for the study of human dirofilariasis. *Trakia Journal of Sciences* **2020**; 18(4) ISSN 1313-7050 (print) ISSN 1313-3551 (online) (под печат – Служебна бележка с Изх № 02.03.2020 г). (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) - **30 т**

ABSTRACT

Dirofilariasis in humans is a rarely diagnosed vector-borne zoonotic helminthic invasion. It is caused from filarial nematodes genus *Dirofilaria* & Railliet Henry, 1911 (Onchocercidae, Nematoda). Usually, the life cycle of the parasite takes place between mosquitoes (Culicidae) and carnivores. The human is an accidental host for the dirofilaria wherefore microfilariae in his blood circulation are almost always absent. The pathology of dirofilariasis results from the accidental localization of immature worms in the human body. *Dirofilaria immitis* caused heart and pulmonary dirofilariasis, but *Dirofilaria repens*, *D. tenuis*, and others can be found in different parts of human body. The spread and *Dirofilaria*-invasive rates are undergone significant modifications affected by global climate change. Surgical extraction of the parasite in humans usually has a therapeutic effect, after which an etiological diagnosis is possible. *The aim* of the study is to review current situation of human dirofilariasis in clinical and epidemiological aspects and possibilities for diagnosis.

Key words: human dirofilariasis, clinical and epidemiological aspects dirofilariasis, diagnostic methods

- 21.** **Mitev M.** Studies on the application of the virtual bronchoscopy method for tracheal and bronchial ruptures. *Trakia Journal of Sciences* **2020a**; 18(1):81-89. doi:10.15547/tjs.2020.01.013 ISSN 1313-7050 (print) ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – **60 т**

ABSTRACT

Traumatic injuries of major airways (trachea and main bronchus) are rare in medical practice but represent extremely life-threatening conditions. The study **aims** to present a summary of research findings on the diagnostic capabilities of Virtual bronchoscopy (VB) in ruptures of

trachea and bronchi. There is very little research into the applicability of VB in Bulgaria. Still, the modern equipment for MDCT VB during the last years provides to use the VB in diagnostic practice and for scientific examinations. The method of VB is recognized as a reliable tool in diagnostic practice and the research of tracheal and bronchial ruptures.

Key words: ruptures, trachea, bronchi, Virtual bronchoscopy

22. **Mitev M.** Technical parameters and criteria for virtual bronchoscopy in diagnostics of tracheal and bronchial ruptures. *Trakia Journal of Sciences* **2020b**; 18(2):165-169. doi:10.15547/tjs.2020.02.013 ISSN 1313-3551 (online) (**Web of Science**; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – **60** т

ABSTRACT

VB is a non-invasive technique and follow-up tool tolerant of most patients, requiring a precise method of diagnosis, especially in ruptures with the formation of high-grade stenoses for which FB is not applicable, as well as in children and elderly or severely ill patients. The study aims to track the technical parameters, key indicators, and criteria for optimizing the diagnostic capabilities of Virtual bronchoscopy (VB) in tracheal and bronchial ruptures. Optimization of the technical parameters of the scans taking into account the age of the patient, the weight, the size, the nature of the ruptures and the severity of the diagnosis; the application of appropriate criteria and parameters for the diagnosis and evaluation of the tracheobronchial tree, combined with the capabilities of modern equipment, guarantee the high reliability, sensitivity, and specificity of the VB method.

Key words: ruptures, trachea, bronchi, Virtual bronchoscopy, technical parameters.

23. **Mitev M, Obretenov E.** Ruptures of trachea and bronchi diagnosed by virtual broinchoscopy with multidetector computed tomography and fiberoptic bronchoscopy – advantages and shortcomings of methods. *Srpski arhiv za celokupno lekarstvo (Serbian Archives of Medicine)* **2020**; 148(5-6):286-291. <https://doi.org/10.2298/SARH190503033M> ISSN 0370-8179 ISSN Online 2406-089 (**Scopus, Q₄, SJR₂₀₁₉=0.14; h 16; IF₂₀₁₉=0,142; Web of Science**) - **30** т

SUMMARY

Introduction/Objective Fiberoptic bronchoscopy often is too aggressive, which requires the use of other noninvasive diagnostic methods. The study presents research results on the

diagnostic capabilities of virtual bronchoscopy with multidetector computed tomography and fiberoptic bronchoscopy in traumatic abnormalities of trachea and main bronchi. Methods A total of 21 patients (six males and 15 females) at the ages of 11–82 years (50.65 ± 19.8) were studied by the methods of virtual bronchoscopy with multidetector computed tomography and fiberoptic bronchoscopy. The diagnostic capabilities of virtual bronchoscopy as compared to fiberoptic bronchoscopy were assessed by established criteria. Results Ruptures of the trachea and/or bronchi were proven by fiberoptic bronchoscopy in 21 patients and by virtual bronchoscopy in 19 patients. The greatest frequency was reported for the post-intubation ruptures (15 patients, 71.42% with virtual bronchoscopy; 16 patients, 76.19% with fiberoptic bronchoscopy), followed by post-traumatic ruptures (three patients, 14.29%); ruptures of trachea and the left lower lobar bronchus as a result of an advanced neoplasm of the esophagus (one patient, 4.76%), diagnosed by both methods; mucosal erosion after instrumental manipulations (4.76%, after fiberoptic bronchoscopy). Conclusion Achieved diagnostic accuracy in ruptures of trachea and bronchi by virtual bronchoscopy is 90.47% and by fiberoptic bronchoscopy it is 100%. In terms of localization, shape and size, almost complete correspondence of changes with those of fiberoptic bronchoscopy was found. The presence of abundant secretion in virtual bronchoscopy may be interpreted incorrectly and efficiency of virtual bronchoscopy decreases.

Keywords: diagnostic capabilities; traumatic abnormalities; trachea; bronchi

24. Mitev M., Pekova L, Valkanov S. Dynamic follow-up and proving through computed tomography and magnetic resonance imaging of changes in secondary meningoencephalitis from suppurative left maxillary sinusitis. *Trakia Journal of Sciences* 2020; 18(2): 98-104. doi:10.15547/tjs.2020.02.002 ISSN 1313-3551 (online) (Web of Science; <https://randii.nacid.bg/register/search> ID №2852 НАЦИД) – 20 г

ABSTRACT

Infections of the nervous system and its belonging structures have often been reported as life-threatening conditions. **Purpose:** the results of dynamic follow-up and proving of changes in secondary meningoencephalitis from suppurative left maxillary sinusitis are presented using the imaging methods - CT and MRI. **Methods:** diagnostic imaging (CT, MRI), of acute disease in a 13-year-old child with progressive development and proving of secondary bacterial meningoencephalitis. **Result:** the control CT after two days showed dynamics in the

imaging CT finding with the appearance of changes in the type of brain oedema and development of pansinusitis. The MRI data described corresponded to changes as at meningoencephalitis in progress. **Conclusion:** The extension of the diagnostic algorithm with MRI, with the administration of intravenous contrast medium, clearly demonstrated changes characteristic of meningoencephalitis.

Key words: CT, MRT, secondary meningoencephalitis, pediatric case.

25. Mitev M A, Chakarova B G. Magnetic Resonance Imaging Diagnosis and Parasitological verification of Human Suborbital *Dirofilariasis*. *Archives of the Balkan Medical Union* 2020; 55(3):11-15. <https://doi.org/10.31688/ABMU.2020.55.3.17> ISSN 15849244 (**Scopus, Q₃, SJR₂₀₁₉=0.22; h 8; IF_{Thomson Reuters2018}=0.28; Index Copernicus) – 30 T**

ABSTRACT

Introduction. The presence of mosquitoes and the abundance of microfilariae in dogs are considered of great risk for invading humans with dirofilariasis. We present an extremely rare case of *Dirofilaria repens* in the periorbital subcutaneous area, diagnosed for the first time in Bulgaria by magnetic resonance imaging (MRI). Case presentation. A 39-year-old woman presented for swelling of the eyelid and eye redness, sensation of movement, irritation and pain. MRI was performed in the axial, coronary and sagittal planes, with pulse sequences T1 W, T2 tse_dix, T2 vibe_fs. On the base of the anamnestic data and pathologic changes identified by MRI, which indicated the presence of *Dirofilaria*, the patient was referred to an eye surgeon. After the parasitological studies, two immature female parasites of the species *Dirofilaria repens* (larvae; Onchocercidae; Nematoda) were identified. Conclusions. MRI is a non-invasive and effective diagnostic method for assessing changes in the proximity and the affected areas of *Dirofilaria repens*, to determine the exact location, for subsequent surgical access and rapid removal of the parasite.

Keywords: diagnostic algorithm, *Dirofilaria repens*, magnetic resonance imaging.

26. Mitev MA, ObretenovE D, Valchev D G (2020). Localizationandshape of stenosesincentrallungcarcinoma – Sensitivityandprecision of MDCTVBandFB. *ActaClinCroat* 2020; 59:252-259. doi: 10.20471/acc.2020.59.02.08 ISSN 03539466; ISSN 13339451 (**Scopus, Q₃; SJR₂₀₁₉ = 0.23; h19; IF_{ThomsonReuters2018}=0.400; Web of Science) – 20 T**.

SUMMARY

The objective is to present diagnostic capabilities of virtual bronchoscopy (VB) and fiberoptic bronchoscopy (FB) for determining the localization and shape of stenoses in patients with central lung carcinoma. A systematic study was performed on 220 patients aged 11-83 (54.36 ± 17.24) years with endobronchial disease using the FB and VB methods during the 2013-2017 period. Central carcinoma of the lung was found on VB in 130 patients and on FB in 120 patients. Other nosologic diseases were found in 22 patients. Right localization of central carcinoma prevailed over left localization in both sexes. A significant difference in the localization criterion was found in female patients examined by VB (U-test, $p=0.01$). VB and FB yielded 86.5% vs. 91.60% precision and 85% vs. 94.5% sensitivity. In conclusion, VB was found to be a successful noninvasive method for determining the localization of lung tumors and shape of stenoses, which are essential in the diagnosis of malignant processes.

Key words: *Cancer; Lung; Localization; Virtual bronchoscopy; Fiberoptic bronchoscopy*