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ABSTRACT BOOK

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Adrenocortical Carcinoma presented with PRES syndrome and abdominal mass

Vika Jaskevičiūtė[1], Viktorija Laukaitienė[2], Rūta Navardauskaitė[3], Giedrė Rutkauskienė[2], Saulius Lukoševičius [4]

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INTRODUCTION

Adrenocortical carcinoma (ACC) is an extremely rare and very aggressive cancer that affects either adults or children. This tumor can be suspected due to clinical symptoms related to excess of adrenal cortex hormones and imaging features: masses that are larger than 6 cm, irregularly shaped tumors with areas of necrosis, hemorrhage, and calcifications. ACC tends to spread to adjacent organs and regional lymph nodes.

CASE PRESENTATION

9-year-old girl was admitted to pediatric intensive care unit because of refractory and recurrent seizures, severe headaches, impaired consciousness and high blood pressure. The history of disease revealed that the patient had been complaining with rapid weight gain, acne on the forehead, hirsutism and premature adrenarche, general weakness for last few months.

The abdominal ultrasound, magnetic resonance imaging (MRI) of abdominal and head were performed, a mass in the right adrenal gland area was found. Abdominal MRI demonstrated a tumor measuring 9.3 x 8.6 cm with hetero-intense signal, clear borders, high vascularization, and uneven accumulation of the contrast agent, also the signs of bleeding in some sites. The mass was dislocating the liver and right kidney.

Typical symptoms of Cushing's syndrome, elevated concentrations of blood cortisol, and androgens also (allowed to suspect) led to diagnosis of tumor of adrenal cortex.

The origin of the patient's neurological symptoms was also unclear. Brain MRI revealed signs of acute-subacute corticocortical ischemia of the cerebral hemispheres. These findings were considered as characteristic of PRES syndrome, what explained the neurological symptoms mentioned above.

The patient underwent surgery – a round, tense, capsulated, well-defined tumor about 10 cm in size was removed. ACC was identified by histopathological examination.

CONCLUSIONS

The diagnosis of adrenal tumors is always challenging because findings in imaging studies are nonspecific, occurring in many different diseases (ACC, pheochromocytoma, neuroblastoma, metastatic or benign tumors). The diagnosis becomes even more complicated when non-typical symptoms appear (neurological in our case). An accurate diagnosis of a tumor can only be made after evaluating clinical symptoms, laboratory tests and tumor histology.

Pediatric acute patellar lateral dislocation: results of both patellofemoral joints

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INTRODUCTION

Acute lateral patellar dislocation is the most common acute knee disorder in children and adolescents, and may lead to functional disability

AIMS AND OBJECTIVES

The purpose of this study was to identify key differences and correlations of the patellofemoral joint morphology between intact and contralateral injured knees in a first-time traumatic acute lateral patellar dislocation population aged under 18 years.

MATERIALS AND METHODS

The data were gathered prospectively from a cohort of 58 patients (35 girls and 23 boys). The prevalence and combined prevalence of patella alta (PA) and trochlear dysplasia (TD) in both knees of patients were evaluated using X-ray by two radiologists.

RESULTS

The patellofemoral joint of patients' intact knees had a lower rate of TD (1.72% vs. 5.2%) and a less common combination of PA with shallow femoral sulcus (SFS) (22.4% vs. 44.8%) but more frequent PA (62.1% vs. 41.4%) compared with their injured knees. We noted statistically significant positive correlations (SSPCs) between the femoral sulcus angle (FSA) and PA in patients with intact ($r = 0.37$; $p < 0.005$) and contralateral injured knees ($r = 0.33$; $p < 0.05$).

CONCLUSIONS

There were SSPCs between the FSA and PA in both gender and age groups of patients with intact and contralateral injured knees. The SSPCs between the FSA and PA of intact knees were higher in the patients with a more dysplastic PFJ anatomy (PA and TD) of the injured knees as compared to patients with only PA of the injured knees.

Pediatric subcutaneous Dirofilariasis

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INTRODUCTION

Human dirofilariasis is caused by Dirofilaria roundworms. Dogs, wild canids and raccoons are the main natural hosts for the three Dirofilaria species. Humans are infected with Dirofilaria larvae through mosquito bites. Invasion can result in nodules under the skin or conjunctiva. They may also present as lung granulomas.

AIMS AND OBJECTIVES:

Dirofilariasis in children is a rare and unusual cause of subcutaneous nodules.

MATERIALS AND METHODS:

We present two cases of detected by ultrasound and surgically proven subcutaneous dirofilariasis in children: 14 y boy with scrotal invasion and 17 y girl with the nodule on her neck.
Ultrasound examination in both cases revealed tubular structures with undulating motion within the subcutaneous mass (Fig.1,2). Live roundworms were removed surgically.

RESULTS:

both patients recovered uneventfully.

CONCLUSIONS:

though rare, parasytic invasion should be on the differential list of ultrasound of subcutaneous nodules. Real time ultrasound with high resolution probes is able to detect the vermicular ethiology.

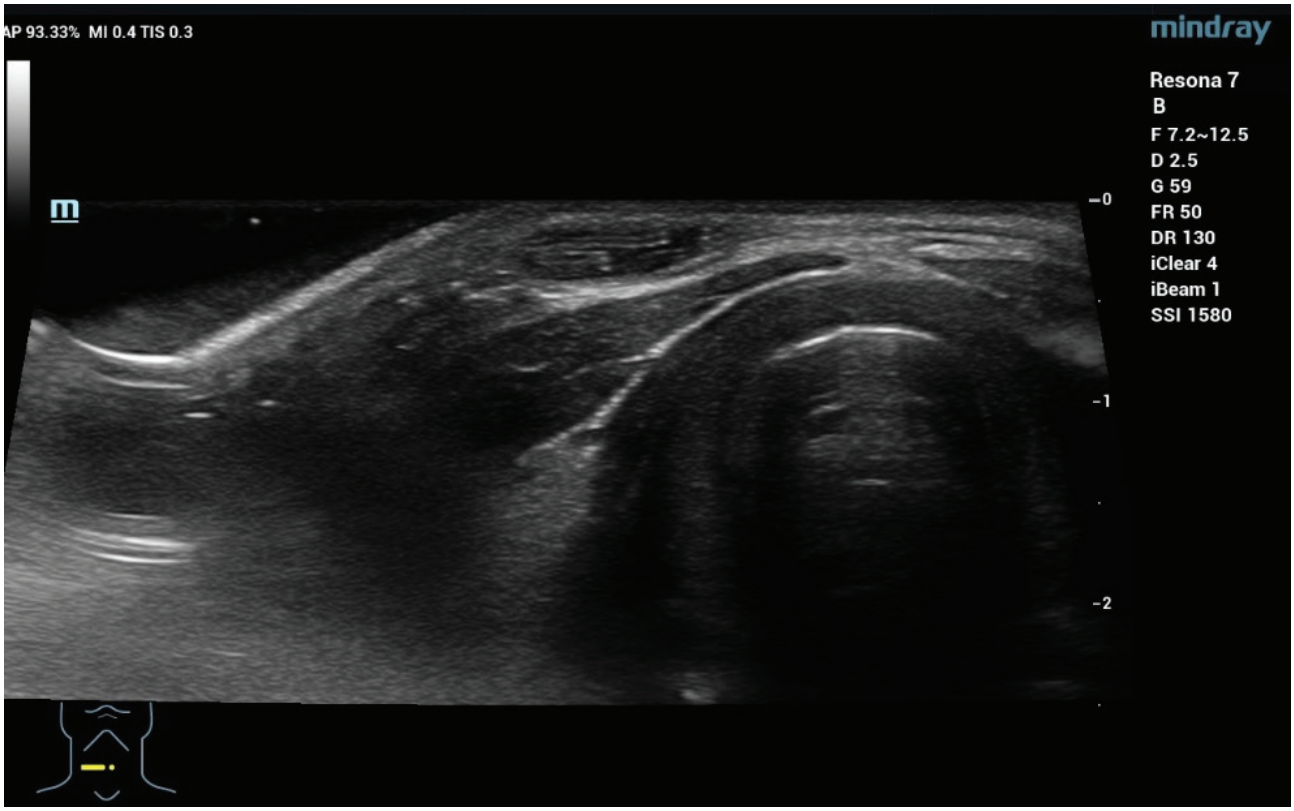

Fig. 1. Tubular structures within the subcutaneous nodule in the neck

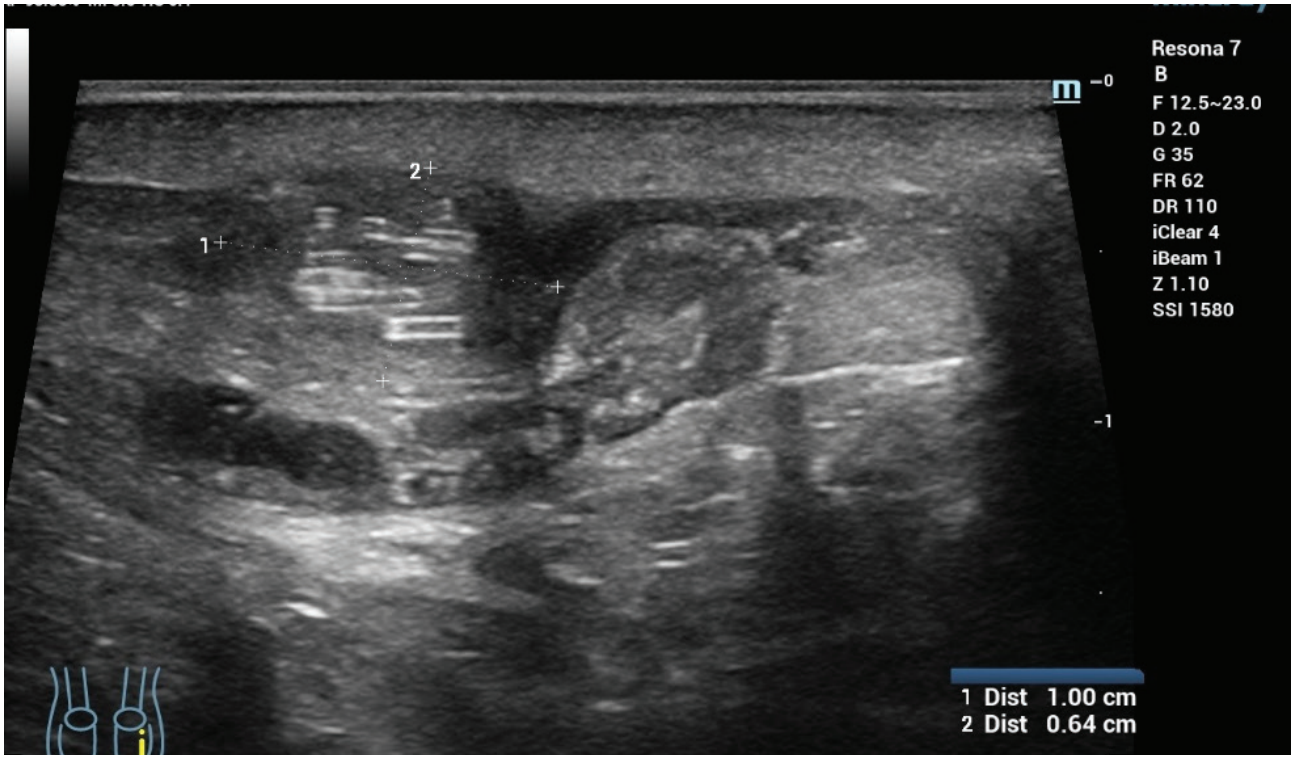

Fig. 2. Tubular structures within the scrotal subcutaneous nodule

Preparation of pediatric patients for MRI examinations without sedation and their care during the examination

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INTRODUCTION

More and more MRI examinations are being prescribed in the world today. Children are one of the growing groups of patients that require special training and professionalism of the staff. Due to the young age of patients, there are often difficulties in conducting examinations, so some medical institutions choose not to perform such examinations, or only perform them under sedation.
We believe that with proper medical staff and patient preparation, MRI examinations can be performed on even the youngest patients.

AIMS AND OBJECTIVES

Objective: Discuss the possibilities and methods of examining pediatric patients without the use of sedation, with insurance of high quality images

AIMS:

- to review the challenges of performing MRI in pediatric patients
- to discuss proper examination methods: properly selected protocols, sequences if the child moves, optimal shortening of the examination to obtain evaluable images that would be high quality.
- to demonstrate communication methods to use when examining a child
- prove that the effectiveness of the study depends on the cooperation of the staff with the patient's parents, but also on the experience and professionalism of the staff
- to discuss how the examination is performed for different areas to detect certain pathologies, how examinations are performed with and without contrast material.

MATERIALS AND METHODS

In this article, we will mainly draw on our work experience, work methods used in daily work with pediatric patients and solutions proposed by the authors of other scientific sources.

RESULTS

- Using the available skills, you need to find a way of communication that does not scare the child and produces the highest quality research.
- During MRI examination of a child, properly selected sequences are important, if the child is restless, the examination time should be optimally shortened, ensuring the quality of the entire examination.

CONCLUSIONS

We can say that it is possible to perform MRI examinations on patients of any age. The preparation of the radiographer is important. Radiographer must communicate with the child and his parents, familiarize the child with the procedure, reduce his anxiety and fears. MR staff must select the appropriate protocols, sequences, modes, in order to maintain a high quality of the study, despite the complications.
The involvement of parents in the preparation is one of the most important aspects for the successful conduct of the study.

Role of radiology in neuroblastoma diagnosis

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INTRODUCTION AND ACTUALITY:
Neuroblastoma is the most common extracranial solid tumor in children. It accounts approximately 10% of all pediatric tumors. It is orphan disease, it accounts ~4-6cases per year in Santaros Klinikos. It has a diverse clinical presentation. Metastatic disease to lymph nodes, bone, bone marrow or skin present apporximately 50% cases. Patient age, clinical stage, and various factors present at diagnosis are among the most important prognostic factors in overall survival. It is estimation of five-year overall survival accounts ~82% in Santaros Klinikos.

AIM:

Provide imaging role in terms of diagnosis and advantages of radiology in the neuroblastoma management pathway.
Materials and methods: A systemic search for relevant studies and articles was performed from Medline(PubMed), SpringerLink and ScienceDirect.

RESULTS:

New neuroblastoma staging system based on preoperative imaging by the International Neublastoma risk group (INRG) was made in 2009. The International Neuroblastoma Risk Group Staging System (INRGSS) is a pretreatment staging system based on imaging findings, particularly the presence or absence of 20 image-defined risk factors (IDRFs) and distant metastatic disease. With the application of the INRGSS the radiologist's role in staging children with neuroblastoma increased. According to this classification, localized disease is classified as L1 or L2, while metastatic disease as stage M or MS.
Combining the INRGSS stage with the age at diagnosis, the histologic results, and the biology and genetics of the tumor allows patients to be placed into a low-, intermediate- or high-risk group.
The intensity and duration of treatment are then determined. The most important imaging factors for determining induction and consolidation therapy include the presence or absence of localized disease at the original tumor site, confined unilateral disease, contralateral disease, and metastatic disease.
IDRFs have an increasingly important role in determining a treatment approach.
Still there is no consensus for timing of follow-up imaging. It is typically based on risk group and protocol driven.
Different imaging modalities are used in neuroblastoma assesement : ultrasound is usually the first imaging examination for tumor identification and follow-up. Magnetic resonance (MRI) or computer tomography (CT) images play an important role at the time of diagnosis to further characterization of masses and IDFFs evaluation for accurate staging. As well these modalities play role of response assessment and follow-up.
MIBG scintigraphy is an accurate method for detecting bone or bone marrow metastases. MIBG is required for staging and to determine eligibility for potential MIBG therapy.
Surgery, chemotherapy, radiation terapy, bone marrow trasplantation, MIBG can cause late ef-

fect - secondary malignancy.The risk of second malignancies in patients treated for neuroblastoma increases with exposure to radiation therapy. There is no report of secondary malignancy with neuroblastoma diagnosis in Santaros klinikos.

Conclusion:

Neuroblastoma is the most common extracranial solid tumor of childhood. Radiology has an increasing crucial role in disease management pathway. The INRG staging system relies 20 Imaging defined risk factors (IDRFs) across multiple organ systems. Multimodality imaging are essential components for neuroblastoma diagnosis, staging, treatment options, response assessment and follow-up.

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Osteogenesis imperfecta in children. Clinical case analysis and literature review

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INTRODUCTION:
Osteogenesis imperfecta (fragile bone disease) is a genetic disease characterized by bone fragility and risk of fracture. Osteogenesis imperfecta is usually caused by changes in type I collagen. It is a genetically and clinically heterogeneous disease with an incidence of approximately 1 in 10,000 to 1 in 20,000.

AIMS AND OBJECTIVES

The aim. The purpose of this article is to provide a literature review on the fragile bone disease of children - osteogenesis imperfecta and to present a clinical case of a 15-year-old patient with osteogenesis imperfecta (OI).
Objectives. 1. To find out the clinical features of the disease osteogenesis imperfecta. 2. To evaluate the goals of treatment of osteogenesis imperfecta disease. 3. To find out the clinical case.

MATERIALS AND METHODS

Scientific literature was reviewed using the PubMed database. Publications written in English and corresponding to the purpose of the article were selected.

RESULTS

Osteogenesis imperfecta is a rare bone disease. It is important to notice the characteristic clinical signs and prescribe the necessary tests and treatment in time. Our patient has undergone multiple traumatic orthopedic surgeries for bone fractures. This genetic disease is incurable, so the patient must be careful of falls or actions that can cause bone fractures.

CONCLUSIONS

Osteogenesis imperfecta can be diagnosed with X-rays, bone density tests, and genetic testing. The late form of osteogenesis imperfecta is more favorable, although it limits the quality of life. The goals of treatment for osteogenesis imperfecta are to increase bone strength, reduce fracture risk, reduce pain, increase mobility and functional independence, and prevent long-term complications.

The Pediatric Population In Radiation Therapy 2020-2023

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INTRODUCTION:
"Radiation therapy, or radiotherapy, is a type of cancer treatment in which specialists kill cancerous cells in the body by exposing them to ionizing radiation, such as X-rays, gamma rays, high-energy electrons, or heavy particles. It is one of the most widely used cancer treatments, with around half of all patients requiring radiotherapy at some point during the course of the disease."(1) In the radiation therapy department, we most often deal with adult patients, but patients under 18 years of age are increasingly encountered.

AIMS AND OBJECTIVES

This study presents four years of data collected on child patients treated in the radiation therapy department.
Which gender dominates patients in the radiation therapy department was discussed.
The age of children treated in different years was compared.
The most common diseases of treated young patients who were treated with radiation therapy were also discussed.

MATERIALS AND METHODS-

In this study, all data were collected from the Lithuanian University of Health Sciences, Oncology and Hematology Clinics, Radiation Therapy Department databases. All data were processed in "Micrososft Excel" and presented in charts that were analyzed.

RESULTS

In the last 4 years, a total of 43 patients under the age of 18 were treated with radiation therapy. In the data, we see the distribution of patients by gender. For two years in a row (2020-2021), more male patients were treated than female patients. After the second two years (2022-2023) the data show the opposite result - more female patients were treated than male patients. In 2020 the youngest patient is 3 years old; the two oldest patients are 17 years old. Five patients aged 5, one patient each aged 8, 9, 14, two patients aged 15, and one patient aged 16. The most common diagnosis for which patients came to be treated with radiation therapy was: eight cases of head-brain tumors, two cases of spinal cord tumors; two cases of pelvis tumors; one case of lungs tumor; one case of spine tumor. In 2021 the youngest patient is 1 year old; the oldest patient is 17 years old. One patient was 4 and 8 years old, two patients 9 years old, the next two patients-13 years, and one 16 years old. The most common diagnosis for which patients came to be treated with radiation therapy was: six cases of head-brain tumors; one case of pelvis tumors; one case of the soft tissue of the head, face and neck; one case of kidney, except renal pelvis tumor. In 2022 the youngest patient is 1 year old; the two oldest patients are 15 years old. One patient at a time has 3,4,6,8,11 years old. In 2022 years the most common diagnosis for which patients came to be treated with radiation therapy was: six cases of head brain tumors and only one case of kidney tumor. In 2023 the youngest two patients are 1

year old; the two oldest patients are 17 years old. One patient was 2 years old; four patients were 4 years old, two patients were 5 years old, one- 8 years, and one – 12 years old. The most common diagnosis for which patients came to be treated with radiation therapy was: nine cases of head brain tumors; one case of the soft tissue of head, face, and neck tumor; one case of mediastinum; one case of retroperitoneum; one case of pelvis tumor.

CONCLUSIONS

Radiation therapy has a great influence on the successful treatment of oncological diseases in pediatrics. The most common diagnosis for which patients came to be treated with radiation therapy in all these years was head brain tumors and spine tumors.

SOURCE OF INFORMATION:

1- "What is radiotion therapy", 17 april 2023, artem vlasov, iaea office of public information an communication; https://www.Iaea.Org/newscenter/news/what-is-radiation-therapy

Foreign body ingestion in pediatric patients

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[2] *Hospital of Lithuanian University of Health Sciences Kaunas clinics*

INTRODUCTION:
Swallowing of foreign bodies (FB) is a common problem in young children, especially kids from 6 months to 3 years of age. In the past two decades, the annual rate of FB ingestion cases in ED has nearly doubled. The increased use of smaller and more modern toys enlarges the risk of exposure to more dangerous FB, like button batteries, magnets, and small sharp toy parts. In 80-90% of the cases, FBs pass through the gastrointestinal tract (GIT) without complications. However, some cases require endoscopic or surgical removal of FBs. X-ray imaging of the neck, chest, and abdomen are the most commonly used diagnostic tests to assess placement, shape, and potential risk for the ingested FB. X-ray imaging should be used in all patients with suspected FB ingestion. However, different radiological tests might be needed in more complex cases.

AIMS AND OBJECTIVES

In this study, we aim to review the suspected and confirmed cases of swallowed FBs in children aged 0-18 years in the Hospital of Lithuanian University of Health Sciences Kaunas clinics from June 2021 to July 2023.

MATERIALS AND METHODS

The records of 63 cases of children aged 18 or under who presented with suspicion of FB swallowing were reviewed retrospectively from June 2021 to July 2023. The analysis was done using IBM SPSS Statistics 27.0 and Microsoft Office Excel 2020.

RESULTS

Out of 84 cases analyzed of suspected FBs ingestion, 21 were excluded due to FB suspicion in the airways. There were 63 suspected FB swallowing cases—patients aged 8 months to 16 years. Thirty-five cases (55.5%) were confirmed by x-ray examination and 1 or more FBs were found in GIT. Out of confirmed cases, children aged 5 or under comprised 71.4%, while 1-3 year-olds included 51.4%. No correlation was found between the sex and the ages of the children. 48.6% of confirmed cases were girls aged 1- 14, and 51.4% were boys aged 1-16. The most frequently swallowed FBs were coins (34.3% of confirmed cases), followed by batteries (20%). Magnets, jewelry, and tiny beads made up 11.4% each (4 cases each). Also, there were 4 cases of other FBs, such as rocks, small toys and pins. All ingested material passed uneventfully through the gastrointestinal tract.

CONCLUSIONS

Overall, we conclude that foreign body ingestion stays a relevant issue. Many potentially dangerous objects, such as coins, batteries, and magnets, are being swallowed by young children aged five or under.

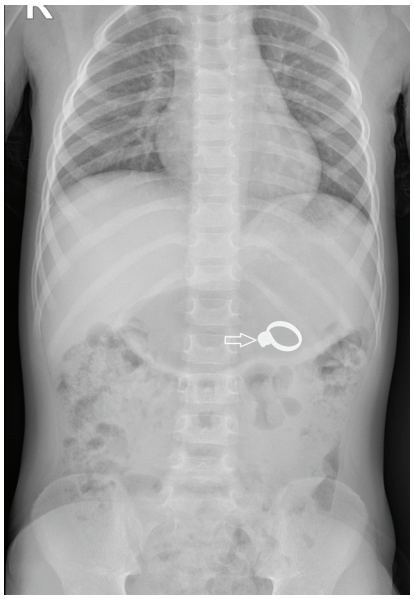

Figure 1. A foreign body (small grey arrow) - a ring. Female, 3 years old.

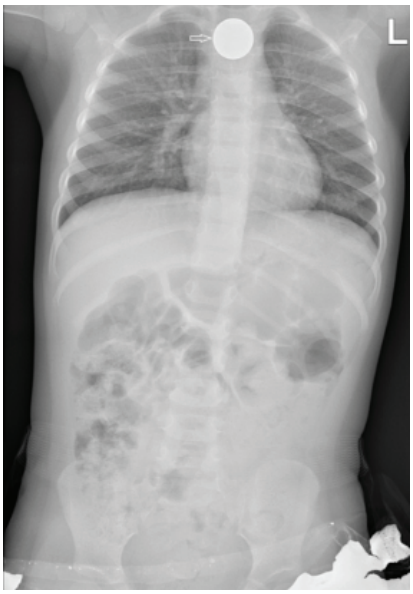

Figure 2. A foreign body (small grey arrow) - a coin. Female, 2 years old.

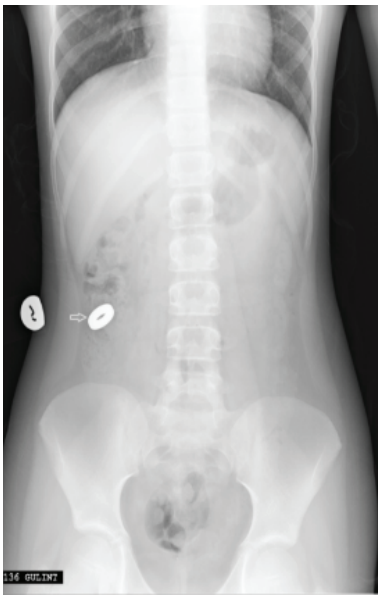

Figure 3. A foreign body (small grey arrow) - a magnet. Female, 9 years old.

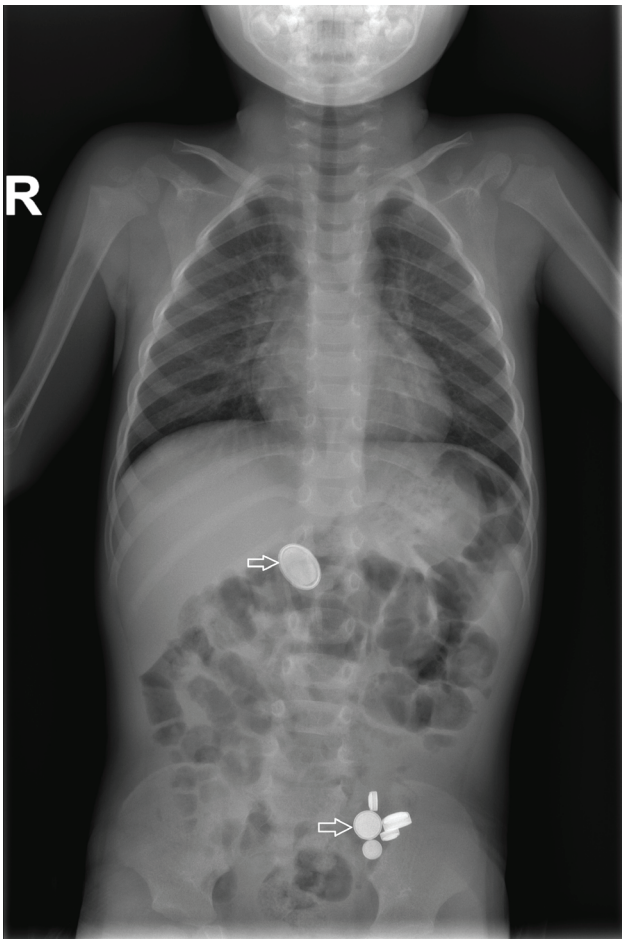

Figure 4. Foreign bodies (small grey arrows) - batteries. Male, 2 years old.

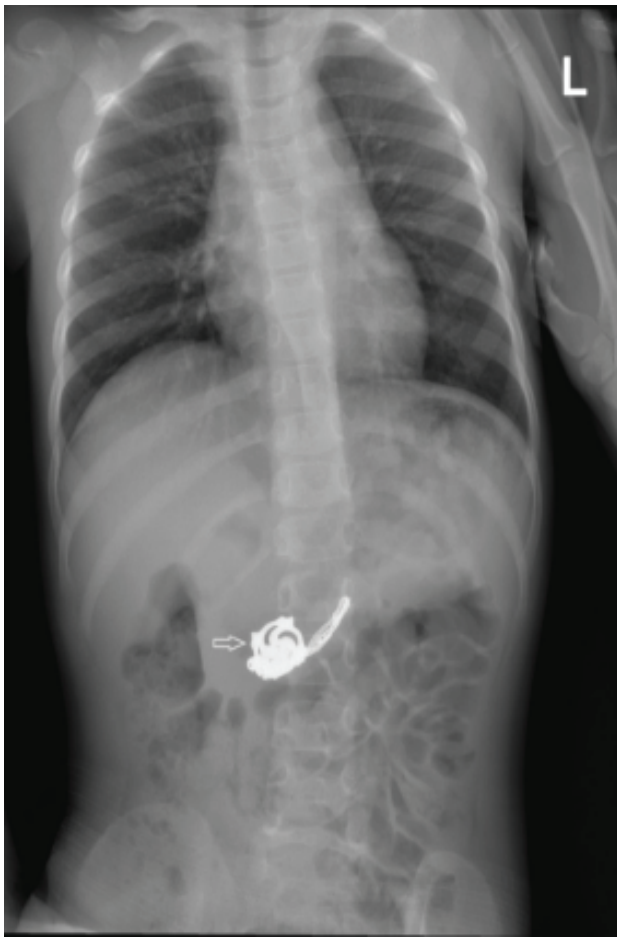

Figure 5. A foreign body (small grey arrow) - a pendant necklace. Female, 3 years old.

Ionising radiation and thyroid cancer in children

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INTRODUCTION:
During the last three decades, there has been a worldwide increase in the number of thyroid cancer cases. In many countries, the number of thyroid cancer cases is increasing mainly due to the increased surveillance and improved cancer diagnostics tools, Lithuania is no exception to this. It has been argued that overdiagnosis alone does not fully explain the observed increases. Exposure to ionizing radiation, including to radioactive iodine, are among the best-established factors that may cause thyroid cancer, especially if exposure occurs early in life.
In connection with the above, we saw that there was an overall need to re-examine thyroid cancer incidence trends. We deemed it especially important to compare the changes of cancer incidence in areas of Lithuania where after Chernobyl accident average radiation doses to children were different
The growing use of ionizing radiation in the diagnosis and treatment of children's diseases. This raises concerns about the negative effects on children's health, especially the increase in the incidence of thyroid cancer.

AIMS AND OBJECTIVES.

The aim of this study was to analyse changes in thyroid cancer incidence trends in Lithuania during the period 1991–2015, taking into consideration a different degree of radioiodine fall-out in Lithuania's districts (Fig.1) after Chernobyl accident and focusing on incidence rates among those who were children and adolescents (age 0-19 years) at the time of the accident in 1986.

MATERIALS AND METHODS:

All population was divided into three groups depending on the individual thyroid doses due to 131I intake at the age under 4 years old. Age-specific and age-standardized incidence rates were calculated. Age-standardized rates were calculated for each calendar year, for all ages combined and age-specific rates for various age groups. Thyroid cancer incidence rates were calculated for two groups by age at the time of exposure. The group of children included those who were 0-9 years at the time of the accident, whereas the group of adolescents included those aged 0-19 years. We analysed thyroid cancer incidence trends starting from 1991 to allow for a 5-year latency period for induction of possibly radiation-related thyroid cancer to occur

RESULTS:

Among children of the most contaminated districts, the incidence rate started to increase since

2001 and remained increased until 2015. For adolescents, the increase was more pronounced in the time period 2006-2015. Comparing with their counterparts from less and moderate contaminated areas, incidence rates in the districts where individual obtained doses exceeded 100 mSv, were more pronounced, especially in the children's group

Relative risk of the thyroid cancer was among children of the most contaminated districts, the relative risk was elevated during the period 2011-2015

CONCLUSIONS:

The increased risk of thyroid cancer in exposed children is clearly related to radiation exposure and the cause might be accompanied by actual increases due to the environmental factors such as excessive iodine intake, exposure to medical radiation, and increased obesity prevalence.

Rare case of metatarsal melorheostosis in adolescent: A Case Report

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INTRODUCTION

Melorheastosis is a rare and progressive mesenchymal disease characterized by thickening or widening of the cortical bone, with annual incidence only 0.9 cases per 1,000,000. It often remains occult until late adolescence or early adulthood. Any bone in the skeletal system can be affected, yet long bones of the lower extremities are the most common in all age groups. There are roughly 400 cases described in the literature. The etiology is unknown.

There is no specific treatment for melorheostosis, rather, symptomatic.

CASE REPORT

Patient 15yo boy presented acutely with pain in his right foot IV-V metatarsal region and rise in body t°. Right foot trauma 1 week prior.

Radiographs revealed deformity of the IV metatarsal (MTT) bone of the right foot with diffuse periostal reaction. In consideration of Dif. dg.- malignancy or chronic osteomielytis, MRI was performed.

According to MRI, changes of right IV MTT resembles neoplastic lesion with extensive structural changes in the muscles of the foot.

Lung CT was clear and routine laboratory findings normal.

Patient was hospitalised for arranged surgery – Tenolysis, excochleation biopsy, plastic surgery with local levers.

Biopsy showed no signs of malignancy and there were no signs of any growth from biological material.

Control MRI 3 months later revealed an infiltrative mass of unspecified origin in the right foot IV MTT, increased swelling of soft tissues, with destruction most likely spreading to right V MTT. In radiograph – dynamically increasing changes in right IV MTT, possible involvment of III and V MTT, currently diagnosis unclear– dif.dg. primary sclerosing Garé osteomyelitis, TB changes, melorheostosis, atypical Ewing's sarcoma.

Repeated bone biopsy was required - Histological picture may correspond to oncononspecific fibroproliferative bone pathology, fibrous bone dysplasia. Similar histological findings with melorheostosis, no data of proliferative or inflammatory processes.

Subtle local swelling was present on 2 months follow up; Subsequent controls showed no symptoms with slight radiological process progression.

Genetic analysis did not detect any known disease-causing or rare variants that could explain the patient's phenotype.

CONCLUSIONS

Melorheostosis is an infrequent dysplastic bone disorder that causes pain and can become debilitating. With ≈400 cases described, there is lack of clinical guidelines regarding specialized treatment.

A multidisciplinary approach and knowledge of the radiographic features of this entity is essential.

A unique case of Rare Congenital Anorectal Malformation - Cloaca with Two Hemivaginas and Hemiuterus

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INTRODUCTION

Congenital anorectal malformations are rare developmental anomalies (1:50 000) that can present complex variations. One such exceptional case is that of a cloaca with bifid vagina and hemiuterus. This case challenges conventional understanding of such type of malformations, and necessitates advanced imaging techniques for accurate diagnosis.

AIMS AND OBJECTIVES

The primary aim of this study is to present a detailed radiology case report of a rare congenital anorectal malformation involving a cloaca with bifid vagina and hemiuterus. The objectives are to show radiological findings, highlight the challenges in diagnosis, and discuss the importance of advanced imaging techniques such as contrast-enhanced ultrasonography (CEUS) in the diagnosis of such a complicated anatomy.

MATERIALS AND METHODS

A retrospective analysis of clinical records and radiological imaging was conducted on a patient diagnosed with a cloaca with bifid vagina and hemiuterus. Imaging modalities included prenatal magnetic resonance imaging, ultrasonography, contrast-enhanced ultrasonography, and fluoroscopy with contrast medium administration to visualize the complex anatomy of the malformation in order do decide on the management strategies.

RESULTS

Radiological assessment revealed a unique case of a cloaca anomaly accompanied by the presence of bifid vagina and hemiuterus. The detailed imaging allowed for accurate visualization of the complex anatomy, aiding in surgical planning and decision-making. Challenges faced during diagnosis and subsequent management are discussed, underscoring the importance of a collaborative approach involving radiologists, pediatric surgeons, and gynecologists.

CONCLUSIONS

The presented case highlights the exceptional nature of congenital anorectal malformations and underscores the importance of advanced imaging techniques in accurate diagnosis and planning. Multidisciplinary collaboration is crucial for successful management of such cases, as they require complicated surgical interventions and long-term follow-up. This case report contributes to the limited literature on this specific anomaly and emphasizes the significance of thorough radiological evaluation in complicated congenital malformations.

Unraveling Acute Pancreatitis in a Pediatric Patient: A Radiological Exploration of Pancreatobiliary Tract Malformation

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INTRODUCTION

Acute pancreatitis in pediatric patients presents a unique clinical challenge, often requiring a meticulous diagnostic approach to uncover underlying etiological factors. By dissecting the radiological findings step-by-step, this case report aims to show the crucial role of imaging in specifying the complex relationship between a rare pancreatobiliary tract malformation and pancreatic inflammation in a 9 years old girl.

AIMS AND OBJECTIVES

The aim of this case study is to to unravel the pancreatobiliary tract malformation causing acute pancreatitis in a paediatric patient utilizing a comprehensive range of radiological modalities and emphasizing the role of precise diagnosis through radiological imaging.

MATERIALS AND METHODS

A thorough assessment of a 9-year-old girl admitted with acute pancreatitis was conducted. Radiological investigations, including ultrasound (US), several magnetic resonance cholangiopancreatography (MRCP) examinations, and endoscopic retrograde cholangiopancreatography (RCRP), were used to reveal and characterize the underlying pancreatobiliary tract malformation. Imaging findings were meticulously analyzed to establish the causal relationship between the malformation and several episodes of acute pancreatitis.

RESULTS

Radiological exploration unveiled a complex pancreatobiliary tract malformation in the pediatric patient, characterized by anatomical aberrations and ductal anomalies causing formation of a gallstone which, due to its unusual appearance, initially was not misinterpreted. This unforeseen gallstone, which had eluded accurate interpretation in the preliminary stages, emerged as a significant contributing factor to the acute pancreatitis event. US, MRCP, and ERCP examinations collectively facilitated the comprehensive understanding of the malformation's anatomy.

CONCLUSIONS

This case study underscores the key role and the dynamic nature of radiological imaging in unraveling the relationship between pancreatobiliary tract malformation and acute pancreatitis in a pediatric patient. The case shows how, by meticulous analysis of confusing visual findings, radiologists established a precise diagnosis of a complicated ductal pancreatobiliary malformation.

Rectal Cavernous Hemangioma causing Portal Vein Thrombosis: a case study in a 15-year-old girl

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INTRODUCTION

Rectal cavernous hemangiomas are rare benign vascular tumors that can lead to a variety of clinical manifestations, including rectal bleeding and pain. Portal vein thrombosis, on the other hand, is a potentially serious vascular condition characterized by the formation of blood clots within the portal vein, often associated with liver diseases and hypercoagulable states. The coexistence of rectal cavernous hemangioma and portal vein thrombosis is a clinical scenario that merits further investigation.

AIMS AND OBJECTIVES

Recognizing and understanding rare conditions is crucial for timely and accurate diagnosis, appropriate treatment, and improved patient outcomes. Therefore, this study aimed to demonstrate the unique visual presentation of a rare congenital disease - rectal cavernous hemangioma in a 15-year-old girl causing portal vein thrombosis and portal hypertension to help others with identifying this condition and differentiating it from other rectal disorders.

MATERIALS AND METHODS

A thorough assessment of a 15-year-old girl admitted with acute rectal bleeding was conducted. CT performed in an outpatient facility, suggested diffusely thickened rectal wall with a number of phlebolites within it and around. MRI examination showed multiple vascular spaces, with a number of blood clots within it. Additionally, upon performing MRI, sequelae of portal vein thrombosis were found – various veins at the porta hepatis, with no presence of the main portal vein, altered liver shape, and splenomegaly – a sign or portal hypertension.

RESULTS

The patient, a 15-year-old girl, presented with rectal bleeding and abdominal discomfort. Imaging revealed a rectal cavernous malformation and signs of portal vein thrombosis, leading to portal hypertension.

CONCLUSION

This case study highlights the exceptional presentation of a rectal cavernous malformation leading to portal vein thrombosis and portal hypertension in a young patient. Due to the confusing appearance of the rectal mass, this case highlights the significant role
that the recognition of various radiological tissue patterns play at maintaining the correct diagnosis.

Introduction of innovative teaching methods in the process of training of x-ray laboratory assistants at the School of pediatric radiology

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INTRODUCTION

The principles of learning include its relevance; individuality (selection of the most rational teaching methods); continuity; active participation of students in the learning process and the use of new knowledge and skills already during training; repetition (consolidation of new knowledge and transformation of acquired skills into a habit); feedback carried out with the aim of correcting learning to achieve higher results. All these principles combine SOP (Standard Operating Procedures).

The development and application of SOP is a priority in the training of X-ray laboratory assistants and serves as a reliable quality criterion in the formation of professional knowledge, skills and competencies.

AIMS AND OBJECTIVES

The training of highly qualified specialists, creatively related to work, capable of self-education, is the main goal of the postgraduate education system of X-ray laboratory technicians. The revision of approaches to the organization and implementation of continuous professional development of nursing staff is a significant factor contributing to further health care reform, and changes should concern both the structure and content of educational programs, as well as forms and methods of training.

MATERIALS AND METHODS

Materials and methods: The SOPs are universal and are used in teaching an adult audience. The SOPs developed by us are used in the process of training at the courses of primary specialization in X-ray laboratory work at the school of "Pediatric Radiology" at the RSSPMC of Pediatrics. The SOP protocols have developed a step-by-step implementation of the X-ray diagnostic procedure during the examination of the patient.

RESULTS

During the practical lesson, students are given printed SOPs prepared in advance on the subject. The first SOPs are performed together with the teachers, and then the opportunity is given to perform them independently several times. In the course of training, various thematic situational tasks are set with the participation of several students. The use of SOP in the course of practical classes and intermediate surveys shows a higher percentage of the assimilation of educational material.

CONCLUSIONS

The SOP should be universal, have a common format and sequence of work for all examinations conducted in inpatient and outpatient settings, where high-tech medical equipment is used. The implementation of the SOP should be clear and easy to use in practice. The SOPs used in training will allow X-ray technicians to confidently perform their duties, which is a prerequisite for teamwork.

The introduction of SOP into the daily practice of an X-ray technician is an important step in the training of medical staff at a qualitatively new level, close to international standards.