Goal Available data suggest that SARS-Cov-2 infection is usually mild in children. The aim of this study was to describe clinical and biological features and outcome of Covid 19 in Tunisian infants and newborns.

Method We reviewed files of patients <12 months, diagnosed with Covid 19 and hospitalized in pediatric 'C' department of Béchir Hamza children's hospital between 15 March 2020 and 15 April 2021.

Results We enrolled thirteen infants and newborns: 11 boys and 2 girls.

Median age was 3 months [10 days; 15 months]. Five were aged between 10 and 28 days, seven were aged between 1 and 12 months. Three patients had serious underlying diseases: two cases of interventricular communication and one case of myelomeningocele and meningitis. Six patients had exposure with persons confirmed to Covid 19. Most frequent signs were: fever (11/13), diarrhea and vomiting (3/13), cough (3/13), nasal congestion and grunting (2/13).

On admission, physical examination found high fever in seven cases. Two infants had marbled skin and one newborn had jaundice. Two patients had tachypnea. Median heart rate was 135. Three patients had Oxygen saturation <94%.

Laboratory testing found median white blood cell count 9496/mm³ [3980-17200], median neutrophil count 4540/mm³ [480-10260], median lymphocyte count 3370/mm³ [990-8020], median monocyte count 1701/mm³ [990-3370] and median C-reactive-protein 4,45mg/l [0-16]. The patient who had jaundice had total bilirubin level at 182 µmol/L and unconjugated bilirubin level at 169 µmol/L. Five patients had lumbar puncture and were all negative.

All patients received symptomatic treatment. Two patients received oxygen through nasal canula and one patient was put on non invasive ventilation. As we received the result of RT PCR, all patients were admitted in isolation ward.

Median duration of symptoms was 3 days [3-7 days]. Median hospital stay was 3 days [2-7 days]. Death occurred one patient with interventricular communication. He had cardiogenic shock 3 days after his diagnosis with Covid 19.

Conclusion Prevalence of Covid 19 is less in children than in adults. In our case serie of 13 infants, five were newborns. Contamination was caused mostly by another family member. Fever, cough and gastrointestinal signs were the most common symptoms. One death occurred in an infant with interventricular communication. None of our patient had multisystem inflammatory syndrome after his infection.

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MULTISYSTEM INFLAMMATORY SYNDROME DUE TO SARS-COV-2 (MIS-C) IN TUNISIAN CHILDREN: A SINGLE-CENTER EXPERIENCE

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Goal Acute corona virus disease (COVID-19) appears mild in children in comparison to adults. But multisystem inflammatory syndrome in children caused concerns among pediatricians since its first description in May 2020.

In this paper we describe a Tunisian experience in management of MIS-C.

Method We reviewed medical files of all children diagnosed with MIS-C and admitted in the pediatric C department of

Béchir Hamza Children's Hospital of Tunis. We analysed demographic, medical and biological features.

Results We enrolled 11 patients. The first one was admitted in September 2020, weeks after the beginning of the second wave of Covid 19 in Tunisia.

Median age was 5 years, nine of them were boys. One patient had neonatal sclerosing cholangitis. The most common symptoms were: fever (11/11), gastrointestinal symptoms (8/11), rash, conjunctivitis and cheilitis (5/11).

Five patients had exposure with a confirmed family member. Physical examination at admission found high fever (n=10) and tachypnea (n=8) with a median respiratory rate at 30. Median heart rate was 110 and median oxygen saturation was 99%. Four patients had abdominal tenderness. During hospital stay, one patient presented generalized seizure due to multisystem failure.

Laboratory testing found medium white blood cell count 10820/mm³, neutrophil cell count 8463/mm³, lymphocyte 1507/mm³ (6 patients had lymphopenia <1500), median C-reactive-protein level was 177 mg/l [83-322mg/l] and median erythrocyte sedimentation rate was 65 mm [42-130 mm]. Five patients had elevated troponin level. Median D-dimer level was 1,8 mg/l and median fibrinogen level was 4,5 g/l. One patient had positive SARS-Cov-2 RT-PCR and the others had positive serology. Four patients presented heart dysfunction and received vasopressive support. Coronary dilatation was found in four patients. Three patients were admitted in ICU, all of them had cardiogenic shock. One patient was put under mechanical ventilation. One patient presented fulminant liver failure and macrophage activation syndrome. One patient presented coronavirus-associated nephropathy with nephrotic syndrome. All patients received immunoglobulin infusion, eight received systemic glucocorticoids. Median length of hospital stay was 12 days [5; 33 days]. No death occurred.

Conclusion MIS-C is a severe result of SARS-Cov-2 infection. Cardiovascular dysfunction is the most frequent complication. Treatment is based on immunoglobulin infusion, systemic glucocorticoids and management of cardiac dysfunction. Management of these children has high cost, especially in developing countries like Tunisia.

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MAKING EDUCATIONAL VR VIDEO GAMES ACCESSIBLE TO ALL AGE DEMOGRAPHICS IN THE MEDICAL FIELD

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Our objectives were:

- To test how different age demographics of medical professionals interacted with our VR video game.
- Record what issues (if any) they faced or had while doing so.
- Analyse what possible solutions could be implemented to make VR video games more accessible to all age demographics in the medical field.

Due to the circumstances created by the COVID-19 pandemic, some of our data came from previous surveys and playtests we created for our game. As well as this, we put our game and a new survey for it up on Itch.io. Itch.io is a public website where people can download free/purchasable games. Our survey questioned individuals on various topics

such as their gender and age, experience with VR, professional background, thoughts on the game and recommendations for improvement. In the survey, it was made clear to participants that any information given would be anonymous and personal questions would be limited to their gender, age and profession.

As well as this, participants were instructed to ensure their VR equipment was set up correctly, to stand in line with their motion sensors, ensure their touch controls were securely fastened and to remain stationary throughout the playtest. It was also stated that if any symptom of VR sickness was felt, such as dizziness, headaches, eye soreness, disorientation, etc, they should immediately remove their VR headset.

In the game, participants could engage with:

- A Playroom, where they could get accustomed with the VR controls.
- A picture puzzle, where they needed to put the LMA procedure steps in order.
- A true or false quiz, that tested their academic knowledge on the procedure.
- An operating room, where they could learn/practice the LMA procedure.

30.8% of participants were female and 69.2% were male. Of these individuals, 53.8% were 20 – 24 years old and 46.2% were 30 – 64 years old. 69.2% of our participants currently work in the medical field.

The primary feedback from participants was that:

- They enjoyed the game
- The steps for the LMA procedure were accurately conveyed
- Voiced and written instructions needed to be clearer
- Movement and controls should have been smoother

Educational VR video games can be made sufficiently accessible to all age demographics. This can be accomplished by simplifying the VR controls and having variable options to facilitate individual auditory and literacy abilities.

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FOREIGN BODY ASPIRATION IN A 13-MONTH OLD BOY – NECESSITY OF RADIOGRAPHIC SCREENING

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Introduction Foreign body aspiration as one of the leading cause of airway compromise in children remains a serious public health issue. It is estimated that about 3,500 children in the U.S. die each year from foreign body suffocation. Such incidents occur in 60 to as many as 90% of cases in patients younger than 3 years, more often in male children due to their playfulness and increased curiosity. Detailed medical history, careful clinical status and radiographic examination of the thoracic organs in two directions is crucial for diagnosis, although X-ray is in many cases completely normal. Rigid bronchoscopy is the first choice for making final diagnosis and foreign body extraction. Most foreign bodies can be found in the right main bronchus (30-60%), left main bronchus (25-50%), trachea (1-13%), larynx 3%, but epidemiological data significantly depend on the authors and institution policy. Foreign body in the respiratory system can cause many

complications such as pneumonia, atelectasis, emphysema and bronchiectasis.

Case Report K.K., 13-month boy with inconspicuous perinatal history was hospitalized for RSV positive bronchiolitis when he was 3 months old, and due to impetigo when he was 7 months old. Until the incident he had no other medical issues. At the age of 13 months, he supposedly 'choked' with a dried piece of orange after which an intense cough was noted; the father stated that he became cyanotic, so he vigorously slapped him on the back. The child was initially brought for an examination to the ER of Children's Hospital Zagreb, from where he was referred to the ER of ENT and Head and Neck Surgery Department for additional opinion and subsequently hospitalized with the aim of further observation. When being brought for a pediatric examination he weighed 12 kg, with no signs of cyanosis and dyspnea, having oxygen saturation of 96%, neat auscultatory finding on the lungs and no asymmetry during percussion. Radiographic imaging revealed shadow measuring 5.5 cm in length in the projection of the lower part of the trachea and intermediate bronchus (shadow of the hairpin). At that time parents discovered that the child was playing with hairpins that were lying on the floor. Foreign body was successfully removed during rigid bronchoscopy. After the procedure, the child was transferred to the Children's Hospital Zagreb for further care and treatment near the Pediatric Intensive Care Unit. In conclusion, he was discharged without short-term and long-term complications.

Conclusion Aim of this case report is to point out the importance of radiographic imaging during the diagnostic work-up of a patient with suspected foreign body aspiration having neat auscultatory and percussion findings. Prompt intervention and interdisciplinary collaboration are crucial for rapid foreign body extraction, in order to reduce the risk of late complications.

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USE OF SOLVENT/DETERGENT – TREATED PLASMA (OCTAPLAS) IN CHILDREN

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Introduction The use of fresh frozen plasma (FFP) has increased significantly in recent years. Clinical practice guidelines recommend plasma transfusion in children and neonates with coagulation disorder and clinically significant bleeding or before invasive procedures with a high risk of bleeding. The use of solvent/detergent (S/D) treatment before freezing significantly reduced the risk of possible side effects. Octaplas is a bio pharmaceutically standardized coagulation active substitute for plasma, and has been used in Europe since 1991. Harmful antibodies and allergic substances have been neutralized and lipid – coated viruses (HIV, HBV and HCV) have been inactivated by S/D. Octaplas contains a well-standardized content of coagulation factors and inhibitors. The structure and function of plasma proteins are not changed, blood cells and leukocyte antibodies, micro vesicles, cell fragments, bioactive lipids are completely removed and the cytokine concentration is lower.

Objective To examine the indications for use of Octaplas in children and its efficiency.