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RESEARCH ARTICLE

THE SARS-COV-2-RELATED MULTISYSTEM INFLAMMATORY SYNDROMEDISCOVERED IN A CHILD WITH ACUTE ABDOMEN: A CASE REPORT

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Abstract

The majority of the authors agree on the frequency of asymptomatic or pauci-symptomatic forms of SARS COV 2 infection in children and the rarity of complications. **[1]** However, the terminology developed by the "Centers for Disease Control and Prevention" and "World Health Organization" of the "Pediatric Multi-Systemic Inflammatory Syndrome Associated with COVID19" has a very heterogeneous symptomatology,non-specific and variable severity. **[2,3]**We report through this observation the case of a 9-year-old child admitted to paediatric surgical emergencies in a clinical acute abdomen and in which serology covid came back positive to IgG associated with a beam of clinical and biological signs ,The diagnosis of COVID19-associated multi-systemic pediatric inflammatory syndrome was retained.

Introduction:-

Literature data on SARS-COV 2 infection in the pediatric population are limited**[4].** Paediatric multi systemic inflammatory syndrome associated with COVID19 has been defined recently after the establishment of prolonged fever, digestive signs;conjunctivitis;abnormalities of the biological balance. The main differential diagnosis of COVID19-associated multi-systemic inflammatory syndrome is the "KAWASAKi syndrome" which sometimes makes the challenge of differentiating them more important **[5]**

Our Work Reports a Case of "Multi-System Inflammatory Syndrome Associated with COVID19" revealed by an acute abdomen in a 9-year-old child in sepsis who led to a surgical procedure for exploration; whereas the symptomatology is frequently moderate or even asymptomatic in the pediatric population.

Medical Observation:-

This is the 9-year-old O child with a history of intermittent headache in the context of apyrexia 2 weeks before admission that spontaneously resolute.
The visit to the pediatric surgical emergencies was motivated by the installation 9 days before fever associated with profuse diarrhea associated with food vomiting then bilious and abdominal para-umbilical at first becoming generalized later and increasingly intense without occlusion.
On admission, the child has : tachycardia and temperatureof 39.5°C;septic facies,the tongue saburrale ,without signs of dehydration and blood pressure to 100/70mmHg, bilateral conjunctivitis.

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The examination of the abdomen objectified a generalized abdominal defense without distension or palpable mass or lumbar contact;the hernial orifices are free as well as the lymph nodes;the testicles in place.
The child was put in condition by the installation of nasogastric probe and a good peripheral venous pathway for rehydration as well as the antibiotic and analgesic intravenously.
Biological assessment: WBC=13820 0/mm3 PNN and lymphopenia;CRP= 123 blood ionogram is normal.

The abdominal ultrasound revealed a localized medium-abundance echogenic effusion within the Douglas Cul de sac; appendix not visualized with multiple mesenteric adenopathies.
The diagnosis of peritonitis very probably of appendicular origin was first mentioned and the patient was explored in the operating room:the peritoneal fluid is slightly cloudy and hematic , the appendix latero -coecal slightly swollen not perforated;magma of mesenteric ADP, the largest of which is in the vicinity of the ileo-coecal region; no meckel diverticulum; the wall of the digestive loops appears normal in appearance with no difference in size; as well as the peritoneum; a mesenteric ADP was collected;peritoneum and appendectomy part for anatomopathological study while peritoneal fluid for cytobacteriological study.

The post-operative follow-up was simple until J4 or the patient installed a sub-occlusive syndrome made of abdominal distension associated with bilious vomiting episodes with febrile peaks at 40°C and profuse diarrhea
Control kalemia returned to 1.53 meq/l explaining the sub-occlusive table related to digestive loss and which decreased after correction
The chest x-ray was normal.
An abdomnio-pelvic CT was performed: having objectified some mesenteric ADP with slight ileal distension without visible obstacle.

Laboratory data has returned in favor of inflammatory anemia; negative blood culture; antigenic Covid test: negative;RT-PCR: negative and serology SARS COV 2: presence of iGg

The patient was put on ceftazidime and aminosides for a week with a good clinical evolution: apyrexia and biological: control CRP was 1.12.

Discussion:-

The Covid-19 pandemic affects both adults and the pediatric population, but the symptomatology associated with this pandemic is moderate or even asymptomatic in the majority of children.
Thus; the main signs reported are light respiratory; cough or rhinorrhea while gastrointestinal signs of vomiting, diarrhea and abdominal pain sometimes mimicking an aîgu abdomen have been reported in large children.
A small proportion of children developed “Kawazaki syndrome” including prolonged fever, conjunctivitis, pharyngeal redness, skin rash, and coronary dilation.

Jun Yet al. Reported that 54% of children had frosted glass appearance on chest CT while the majority were pauci-symptomatic or asymptomatic **[6]**
As a result, detecting radiological signs of COVID-19-related pneumonia can be responsible for optimal and early management and reduce morbidity.
Xia W et al objectified biological balance disorders including lymphopenia (35%), ALAT (25%°, CRP (45%), and procalcitonin (80%)**[7].**

Cheung EW et al. reported 17 children with MIS-C in the US with gastrointestinal signs (88%), shock (76%) and mucous skin signs; 8 had KD criteria and 5 incomplete KD; 82% were treated with steroids and 76% with immunoglobulins. **[8].**
Further studies of the paediatric population on COVID19-associated Multi Systemic Inflammatory Syndrome are needed to better understand the specificities of this entity, risk factors;evolution and management of children with COVID19-associated Multi-Systemic Inflammatory Syndrome**[9].**

Conclusion:-

Apart from the frequent presentation of COVID-19 in poor-symptomatic forms or without symptoms in the majority of cases; it can be revealed by variable presentations of very heterogeneous nuances ranging from simple cough;diarrhea;fever in a table of abdominal pain mimicking a surgical table in children.

Our case illustrates this possibility perfectly by highlighting the clinical signs,Radiological and biological Multiple Systemic Inflammatory Syndrome associated with COVID19 diagnosed in a 9-year-old child admitted to a peritonitis board in which COVID 19 serology returned positive to IgG

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