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Original Research Paper

Paediatrics

TROPICAL PYOMYOSITIS IN A CHILD AT TERTIARY CARE CENTRE

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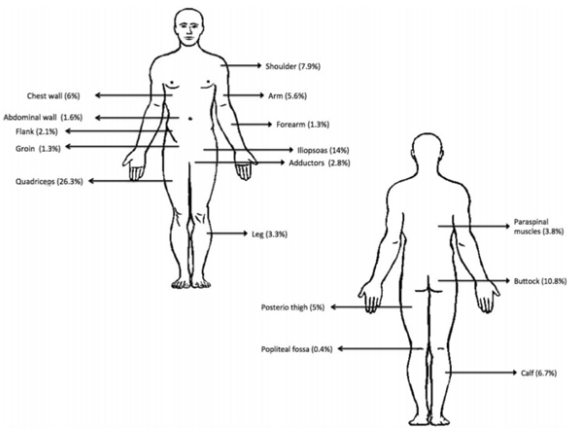
KEYWORDS :

Tropical Pyomyositis is characterized by suppuration within skeletal muscles, manifesting as a single or multiple abscesses. It was first described by Scriba in 1885, as an endemic disease in tropics. It is characterized by single or multiple muscle abscesses, arising within skeletal muscles by transient bacteraemia and not by contiguous spread from surrounding tissues. The most common organism implicated is Staphylococcus aureus. As per the previous studies cases of pyomyositis were reported throughout the year , maximum incidence was from July to September. No age group is spared from this entity, but reports from paediatric age group are scarce. Majority of cases are among the older children, more commonly male patients. Usually the disease starts in a single group of muscle, but in 20-40% cases multiple muscles (1-5) are involved, either sequentially or simultaneously. It is postulated that un-injured skeletal muscle is intrinsically resistant to infection because myoglobin binds to iron avidly, which is necessary for growth of the organism. But when muscle trauma is present , there is sequestration of elemental iron leading to predisposition for hematogenous invasion by bacteria with subsequent abscess formation. Some of the immune dysfunction states associated with Tropical Pyomyositis are HIV infection, steroid use, diabetes mellitus , leukaemia ,lymphoma . Tropical Pyomyositis cases in immunocompromised patients are more commonly reported from temperate regions. But in tropics , it has been reported even in otherwise healthy children. Though it can be related to factors affecting the muscle itself (strenuous exercise , direct muscle trauma , viral or parasitic myositis). Secondary Pyomyositis is usually a consequence of direct extension from an infectious process most notably Crohn's disease, infectious colitis, appendicitis and neoplasia. The pathogenesis of this disease is not clear but trauma, malnutrition, viral and parasitic infections, bacteremia , immunodeficiency or chronic illness and other factors have predisposing roles.

Although the classical presentation of Tropical Pyomyositis is muscle abscess, the disease process passes through three stages. The first is the invasive stage, lasting 10-12 days , where the patient has fever , local swelling , mild pain and tenderness; affected area has wooden consistency, and aspiration yields no pus. The next is the suppurative stage when most patients are diagnosed with distinct muscle swelling and tenderness and pus can be aspirated. In the third stage , systemic manifestation of sepsis occur. Majority of cases presented in stage II were admitted late in septic shock stage III. Therefore high index of suspicion and early diagnosis have better outcome. Pyomyositis predominantly affects the muscles of the lower limbs can also affects upper limb , trunk and spine. In lower limb , the most commonly affected muscles are the quadriceps and iliopsoas flowed by gluteal muscles. Investigations reveal anaemia, leucocytosis (shift to left) , raised ESR and acute phase reactant. Pus culture positivity rates are good. Community acquired methicillin sensitive Staph. Aureus is classically associated with pyomyositis. Although other organisms like Streptococcus, Pneumococcus, Escherichia Coli, Klebsiella and so forth have also been linked with it. Muscle enzymes are normal in pyomyositis. Ultrasound is usually the investigation of choice for making a diagnosis. Typically it shows swollen muscles, muscle heterogenicity and multiple abscesses inside the muscles. MRI can be used in doubtful cases to confirm findings of pyomyositis. It shows hyperintense signal in T2 weighted images , hyperintense rim on enhanced T1 weighted images and peripheral enhancement after gadolinium DTPA scan.



Anatomic Distribution of Pyomyositis

The initial antibiotic of choice is cloxacillin and incision and drainage are the important components of surgical management.

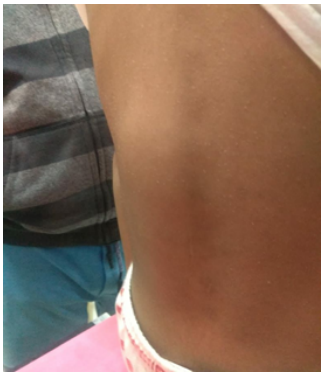
CASE REPORT:

10 Years old completely immunized male child resident of Pune was admitted to Tertiary Care centre ,Pune with complaints of fever since 5 days and multiple subcutaneous swelling all over the body since 6 days. On admission patient was febrile and having subcutaneous swellings over left shoulder , left side of chest around T3-T5level , and left paraspinal area around T5-T7 level. Each swelling was approximately 3x4cm , pain and tenderness was present with redness and warm surface. There was no any history of trauma , bleeding , bite and no visible sinuses ,pus draining lesions. Swelling was gradually increasing in size. Patient was not having any previous history of hospitalization or repeated medical intervention. Patient was having difficulty in walking on examination patient was having waddling gait on left side. Clinically patient was febrile with pain at abscess

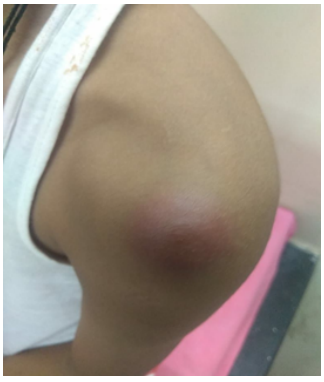
site and was not in septic shock.

Investigations:

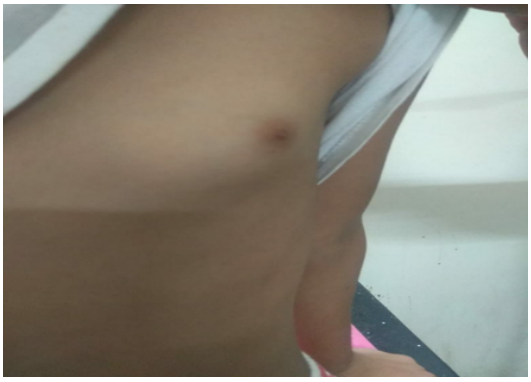
On admission patient's routine lab investigations done. Complete blood count was suggestive of leucocytosis TLC was 30,000 with neutrophilic predominance (90%) with shift to the left up to metamyelocyte. C Reactive protein was positive 1.2mg/dL, ESR was high 61 mm/hr. HIV test was non- reactive. Creatinine Kinase was 30 IU/L which was within normal range . Local Ultrasonography was done which was suggestive of intramuscular abscess formation secondary to infective etiology. Usg guided aspiration of abscess done and pus sent for culture and gram staining. Pus gram staining was not suggestive of any organism or pus cells . Pus culture sensitivity was suggestive of growth of Methicillin sensitive Staphylococcus Aureus (MSSA) sensitive to vancomycin , Linezolid, Clindamycin. According to sensitivity pattern and persistent high grade fever spikes patient was started with Injection Vancomycin and Injection Meropenem. Blood culture sensitivity was not suggestive of any growth.



Left paraspinal abscess



Left shoulder abscess



Left chest wall abscess

CT scan of whole body was suggestive of multiple, thick , irregular walled , peripherally enhancing hypodense intercommunicating collections in left paraspinal musculature along erector spinae and quadratus lumborum muscles and left tensor fascia lata muscle. MRI of spine done in view of waddling gait which was suggestive of multiple enhancing collection in left paraspinal and iliopsoas muscles suggestive of infective myositis with no obvious intraspinal extension. Patient responded well to 4 weeks injectable antibiotic therapy. Fever spikes subside and leucocyte count also normalised with resolved abscesses. Physiotherapy continued for gait abnormality. With the help of physiotherapy and antibiotic cover of 14 days gait is also improving.

CONCLUSION:

Tropical Pyomyositis is typically caused by community acquired S. aureus which is methicillin sensitive. Classical presentation of tropical pyomyositis is muscle abscess. Antibiotics as per sensitivity pattern and aspiration are the main stay of treatment. Incision and drainage is an important component of surgical intervention. Early diagnosis is associated with good prognosis in this curable infective disease entity.

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