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A Rare Diagnostic Endeavour: Necrotizing Fasiciitis Of Abdominal Wall, Thigh Caused By Perforated Appendicits.

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ABSTRACT: Appendicitis is the leading cause of emergency abdominal surgeries done all over the world. Atypical presentation of appendicitis serves as hindrance in the diagnosis. Delayed diagnosis and treatment may cause myriad of complications such as perforation, appendiceal abscess, pelvic abscess, hemorrhage, retroperitoneal abscess. Necrotizing fasiciitis of abdominalwall, thigh is one such rarer consequence arising from retroperitoneal abscess secondary to perforated appendicits. Necrotizing fasiciitis also known as flesh eating disease is a rapidly progressive inflammatory infection of fascia, with secondary necrosis of skin, subcutaneous tissue, fascia, with or without inflammation of underlying muscle. The early diagnosis of necrotizing fasiciitis is difficult as it presents with diverse fashion with minor physical findings. CT shown to aid in the diagnosis and evaluation of necrotizing fasiciitis. In our study we report a case of perforated retroperitoneal appendicitis with initial presentation of right thigh and psoas abscess leading to life threatening disease of necrotizing fasiciitis.

Keywords: Necrotizing fasiciitis, appendicitis, polymicrobial infection, diabetes mellitus.
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I. CASE REPORT

A 34 year male **recently diagnosed diabetes mellitus** presented to emergency department(ED) with complaints of giddiness, right lower abdomen , right hip and right thigh pain for past 4 -5 days. Patient had no history of trauma in the recent past. Physical examination revealed right hip and right thigh tenderness **with limited range of movement of right hip without remarkable abdominal signs**.

Patient initially admitted under department of medicine for uncontrolled blood sugar levels. As a part of evaluation, orthopedic opinion obtained to rule out septic arthritis since white blood counts were on higher side of about 31,000**.**Compued tomography **(CT) revealed necrotizing fasiciitis of abdominal wall, thigh extending upto knee** which necessitate aggressive surgical intervention is mandatory.

Our Surgical team was consulted and based on CT reports Patient underwent **exploratory laprotomy** which revealed **perforated retrocaecal appendicitis [fig1]** with around 300ml of pus drained, **necrotizing fasiciitis of lateral and anterior abdominal wall [fig2,3]** noted, thorough wound wash given , appendicectomy done with intrintraabdominal drain kept insitu. **Fasciotomy** with thorough wound debridement done for necrotizing fasiciitis involving the thigh extending upto knee. Pus culture revealed **polymicrobial infection** consisting of **Escherichia coli, bacteroides fragilis**. Post operative period was eventful patient was put on ventilator on ionotrophic support since patient didn't improve from septic shock in spite of higher antibiotics, vigorous debridement done twice in a day, patient expired on pod 3.

II. DISCUSSION

Necrotizing fasiciitis was first recognized by Hippocrates in 500BC in which he described the clinical condition a complication of erysipelas disease that is similar to that of current description of necrotizing fasiciitis [1].

It is a rapidly progressive inflammatory infection of fascia, subcutaneous tissue, with or without the involvement of underlying muscle. Its prevalence globally has been reported to be 0.40 cases per 100,000 population [2].

Necrotizing fasiciitis is **a rare complication** of appendicitis [3]. The **early diagnosis** of necrotizing fasiciitis is **difficult** as it **presents with diverse fashion** with minor physical findings[4] .

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CT shown to aid in the diagnosis and evaluation of necrotizing fasiciitis [5]. Careful **evaluation of CT abdomen should be done in patients with flank pain** and **associated immunocompromised state** such as **diabetes**.
Misiakos et al based on pathogens causing necrotizing fasiciitis with its associated comorbities classified into four types[1]. **Most cases are polymicrobial** classed as **type 1** mostly found **in trunk and perineum** typically affects immunocompromised patients such as **diabetes mellitus** as in our case.
Studies reported that the **mortality rate was nine times greater** when primary **surgery was performed 24 h after the initial onset of symptoms**[6,7]. Similarly necrotizing fasiciitis involving **multiple sites** carries **poor prognosis** and **high mortality rate** of almost 100% similar to our study.

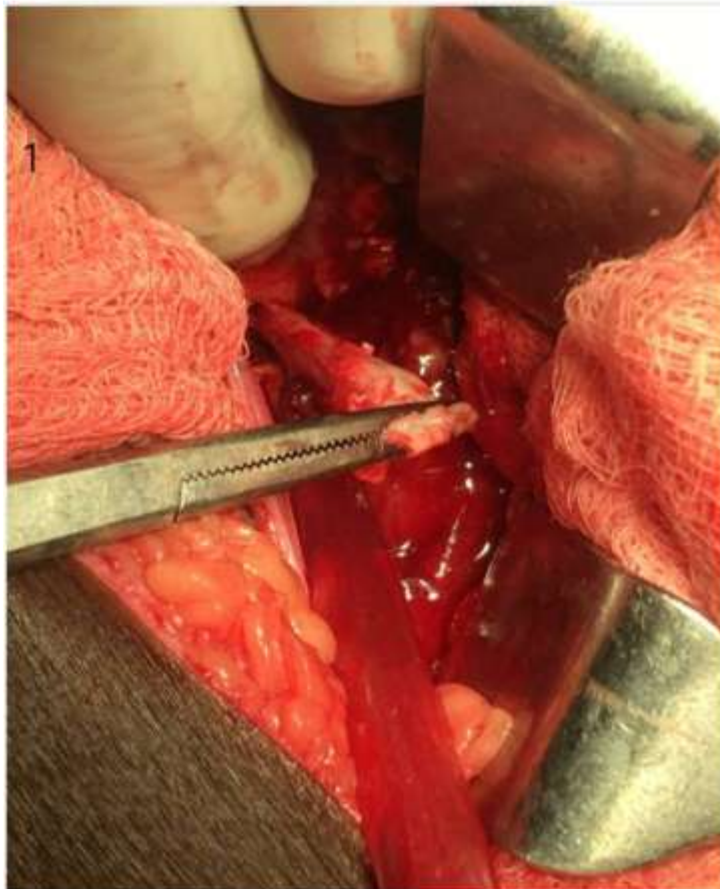

Fig 1 showing fully inflammed appendix with pus flakes appendicular tip perforation

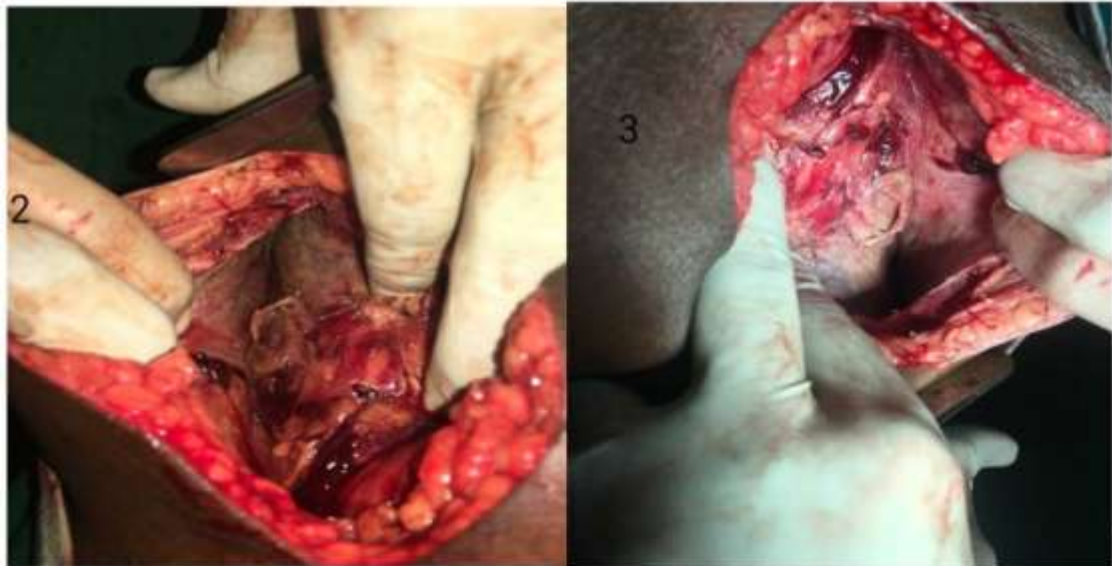

Fig 2,3 shows necrotizing fasiciits of abdominal wall.

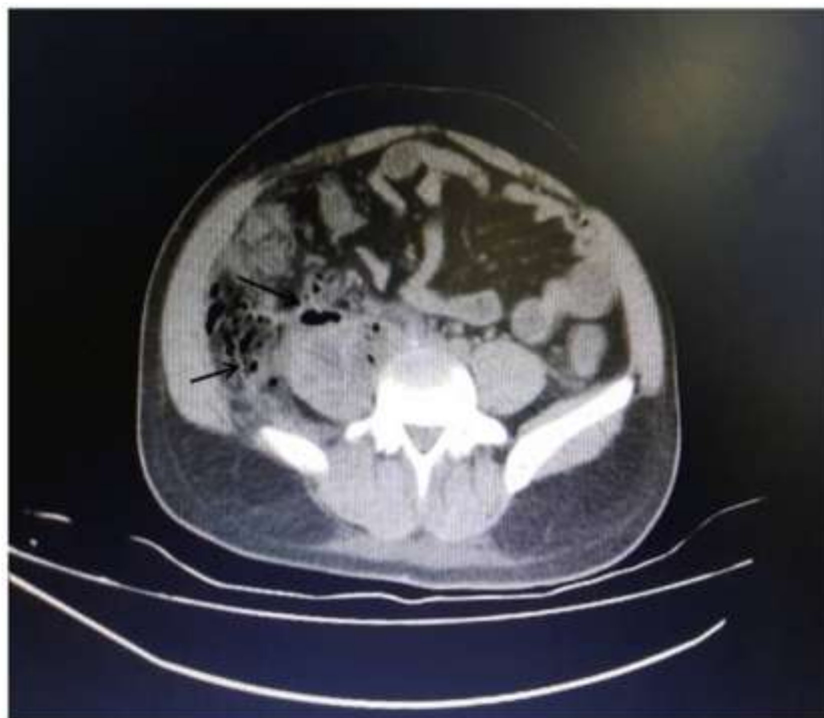

Fig 4 CT axial section shows multiple air pockets in retroperitoneum with retroperitoneal abscess shown by arrows

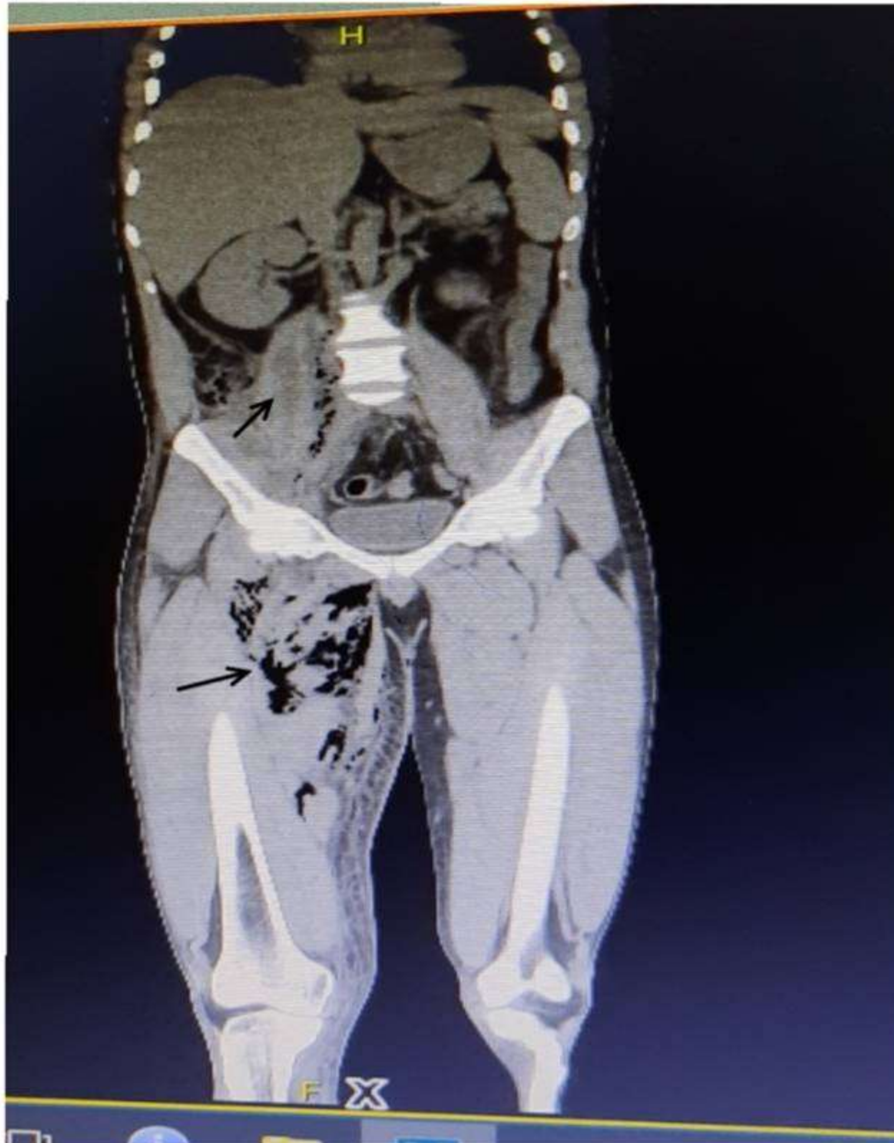

Fig 5 CT coronal section shows large amount of air in right retroperitoneum , thigh marked by arrows

III. CONCLUSION

The diagnosis of acute appendicitis with varied presentation is often difficult in emergency department (ED). As timely intervention and prompt diagnosis of the condition may aid in expeditious recovery and survival of the patient. Hence we recommend appendicitis to be kept in mind as inra-abdominal pathology in patients with unexplained groin and thigh symptoms.

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