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Splenic Abscess, A Rare Complication of Perinephric Abscess

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Abstract: ***We present a case of 64-year-old diabetic woman with complaints of left sided flank non-radiating, progressive pain since 3 months, who underwent contrast enhanced CT scan revealing perinephric abscess with contiguous spread into spleen.***

Keywords: Spleen, Abscess, Perinephric abscess, Perirenal abscess, Splenic abscess, Computed tomography

1. Introduction

Perinephric space is the space between the Gerota's facia anteriorly andZuckerkandl's facia posteriorly. The collection of pus in this space is called perinephric abscess[1]. A study conducted by Raptopoulos et al concluded that the renal fascia is closed superiorly and inferiorly forming a cone and preventing the spread of disease process across the perinephric space through formation of interlobular septawithin [2]. However, when large amount of fluid collects in this space it can cause dissection of the fused layers of facia and show spread into the pelvis and peritoneal space [3]. Perinephric abscess can develop fistulous connection with pleura, colon and duodenum[4].We report a case of splenic abscess as a complication of direct spread from perinephric abscess.

2. Case Report

The patient was a 64-year-old diabetic woman who presented with left sided non radiating flank pain since 3 months and history of recurrent urinary tract infections. Initial haematological investigations of the patient revealed that there was an increase in total leucocyte count (15,500/ mm^3) and a raised random glucose plasma level (156 mg/dl) with raised serum creatinine levels (2.1 mg/dl). Urine analysis revealed increased pus cells.On performing a contrast enhanced CT scan, it was observed that a peripherally enhancing heterogeneously hypodense collection in the perinephric space of left kidney was seen extending towards the splenic parenchyma (fig 1). There were associated multiple non-enhancing hypodense areas in the spleen with few air density foci within (fig 2) suggesting the contiguous spread of the perinephric abscess into the spleen.Ultrasound guided percutaneous aspiration of the splenic collection was done, and the culture of the drained pus revealed the presence of extended spectrum beta lactum producing Escherichia coli bacterial growth which was sensitive to Amikacin and Imipenem group of antibiotics.Antibiotics were administered to the patient for a period of 10 days. The patient improved and was discharged.

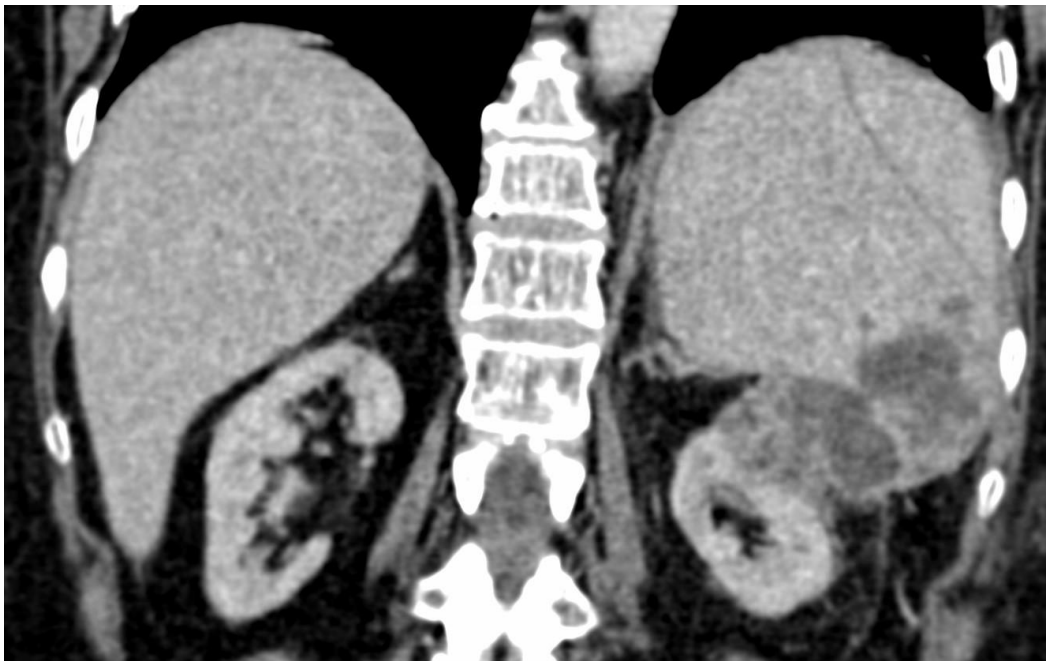

Figure 1: Contrast enhanced coronal CT image in venous phase shows contiguous spread of perinehric abscess into the spleen.

Figure 2: Contrast enhanced axial CT image in venous phase shows splenic abscess with few air density foci within

3. Discussion

Perinephric abscess can result from various conditions like urinary tract infections, urinary tract calculi, diabetes mellitus or immunosuppression. It is a rare entity with its incidence ranging from 0.9 to 4.0 cases per 10,000 hospital admissions and only 0.2 percent of all urological procedures contribute to formation of perinephric abscess [5] Contiguous spread of perinephric abscess into spleen is a very rare phenomenon and there have been very few reported cases [4,6,7]. CT with contrast is the imaging modality of choice for evaluation of perinephric abscess and its extensions into adjacent structures. Treatment in such conditions include initial antibiotic therapy followed by percutaneous drainage of abscess. Surgical intervention should be considered as a last resort when medical therapy and percutaneous drainage fail to resolve the abscess.The few reported previous studies in splenic abscess as a complication of perinephric abscess, the causative organisms like Streptococcus and Proteus mirabilis[6,7]. Culture has shown the causative agent to be Escherichia coli in the present case. Further research is needed to find out all the possible causative agents causing splenic abscess.

4. Conclusion

Splenic abscess can result from various causes like haematological disorders, trauma, immunodeficiency, contiguous spread and infection [8]. Amongthesesplenic abscess formation due to contiguous spread from perinephric abscess is a rare phenomenon. In the present case the imaging and histopathological studies revealed Escherichia coli to be causative organism causing the perinephric abscess.

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