Abdominal Pain in Diabetes – DKA is not the Only Cause

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Sir,

Abdominal pain in case of diabetes is usually interpreted as a presentation of diabetic ketoacidosis (DKA), but sometimes is may not be the only cause of pain in abdomen and can be misleading to the physician’s too. As other causes of abdominal pain like intra abdominal abscess (renal abscess) being so uncommon, can be missed and if not entertained timely can lead to prolonged hospital stay and fatal outcome. So, high index of suspicion is required in such patients which we have tried to focus by this case.

Diabetes is one of the worlds leading chronic disease and DKA is one of the acute complication of diabetes that can lead to increase morbidity and mortality if not treated promptly and effectively.¹ Most common presenting symptoms of DKA is vomiting and pain abdomen.² 30-50% cases of DKA are precipitated by infections, in which urinary tract infection (UTI), pneumonia and intra abdominal sepsis accounts for majority of cases.¹ Renal abscess is an uncommon disease entity, it accounts for 0.2% of all intra abdominal abscess and the common predisposing factors are diabetes mellitus, renal calculi, ureteral obstruction and vesicoureteral reflux, longer duration of symptoms of UTI, immunosuppression and renal failure.³,⁴

We report a case of known diabetic, 45 yrs old female who presented in emergency department with complaint of pain abdomen, high grade fever and breathlessness since 5 days. On admission, she was anxious, febrile and dehydrated. Her pulse was 120/min, BP was 130/80 mmHg and respiratory rate was 24/min.

Per abdomen examination revealed tenderness in the epigastric and right lumbar region with no palpable organomegaly. Rest of the systemic examination was unremarkable. On investigation, urgent bed side urine examination by dipstick revealed urine glucose 4+ and ketone 4+, RBS by glucometer revealed high blood sugar. Blood and urine samples were sent for investigations. Blood analysis revealed Hb-10.8 gm%, TLC 9200/cumm,Neutrophils-78%,Lymphocytes-19%,Platelet-2 lacs/cumm,blood urea 42 mg/dl, Serum creatinine-1.2 mg/dl, Serum Uric acid -2.02 mg/dl, Serum Na+-127.52 meq/l, Serum K +-4.29 meq/l, Serum Ca ++-9.01 mg%, Serum bilirubin - 0.62 mg/dl, SGOT-32 iu/l, SGPT-12 iu/l, pH-7.29, Urine-routine/microscopy showed - 8-10 pus cells/hpf and 4-5 epithelial cells/hpf, ECG and X-ray chest were normal.

Patient was diagnosed as a case of DKA and was treated with intravenous fluid, insulin as per guidelines and empirical antibiotics. Over a period of 48 hours, blood sugar reduced to 256 mg/dl, urine sugar and urine ketone reduced to 2+. Patients condition improved but abdominal pain increased in severity and tenderness persisted and more localised to right lumbar region. In view of persisting abdominal pain and tenderness, USG abdomen was performed to rule out any other possibilities (acute appendicitis, acute pancreatitis, ruptured viscus or intra abdominal abscess). USG abdomen revealed a renal abscess in lower pole.
of right kidney measuring 2.5 × 2.5 cm in size which was not aspirable (Figure 1). E-coli was grown in urine culture and blood culture was sterile. Patient was switched over to sensitive antibiotics after urine culture sensitivity report. Follow up USG abdomen after 7 days and 21 days showed gradual reduction in size of abscess to 2 × 2.2 cm and 1.1 × 1.2 cm respectively. Abdominal pain decreased in intensity after 10 days and patient was switched to oral antibiotics and pain subsided completely after 3 weeks. Patient was discharged after 4 weeks on oral antibiotics and advised to follow up after 7 days.

Discussion

Infections of kidney and perinephric space are uncommon renal pathology but can cause considerable morbidity and mortality. It’s common presenting symptoms are fever and flank pain but it is difficult to diagnose because of its nonspecific and varied presentation. As in our case patient did not have classical flank pain at the time of presentation.

In this case total leucocyte count (TLC) was normal with neutrophilia, where as in previous reports raised TLC was common. This probably suggests that TLC may not be raised in immunosuppressed condition like diabetes mellitus but neutrophilia indirectly points towards septicaemia. According to various studies E-coli and proteus are the most common organisms responsible for renal abscess. This was true in our case also. In 40-75% cases of DKA, abdominal pain sometimes mimics acute abdomen (like acute pancreatitis, ruptured vissus, and acute appendicitis) which usually resolves with correction of metabolic disturbance. But in our case, pain abdomen persisted even after correction of hyperglycaemia and metabolic acidosis, which made us to further investigate the patient for other aetiology of abdominal pain. USG abdomen is reliable and easily available diagnostic tool for intra abdominal pathology like renal abscess. Successful management of renal abscess depends on early diagnosis and appropriate antibiotics for at least 4 weeks in case of small (< 3 cm) and medium (3-5 cm) sized renal abscess depending upon the causative organisms, failing which can lead to serious complication. In this case also patient’s hospital stay was of 4 weeks on antibiotics to which she responded well. Diagnosis of renal abscess should be considered in patients of pain abdomen that fails to improve even after appropriate therapy and correction of ketoacidosis in case of DKA, as the cause of death in patient of DKA relates to the underlying medical illness that precipitate the metabolic decompensation. This case also highlights that renal abscess can be one of the precipitating cause of DKA in case of diabetes and should be looked for in DKA patients.

References