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Giant Pyonephrosis in a of Pyelo-ureteral Junction Syndrome with Atypical Presentation: A Case Report and Review of the Literature

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ABSTRACT

SUMMARY

We are reporting a case of giant pyonephrosis in a case pyelo-ureteral junction syndrome. It's about a patient of 67-year-old patient with no notable pathological history. Pyonephrosis is a destruction of the renal parenchyma secondary to chronic superinfected hydronephrosis. In our case, the clinical manifestation was totally atypical. The diagnosis was revealed in front of intestinal obstruction. The emergency treatment consisted of a percutaneous nephrostomy, the clinical outcome was favorable. A delayed nephrectomy was realized.

KEYWORDS

Occlusive syndrome; Giant pyonephrosis; Pyeloureteral junction syndrome

INTRODUCTION

Pyonephrosis refers to the parenchymatous destruction of the kidney by a suppurative process in a hydronephrosis field (without presuming its origin). It usually results in a rapid and complete loss of function of the affected kidney if left without treatment [1]. Radiological examinations are essential for the diagnosis [2]. The treatment of pyonephrosis is specifically based on drainage. If shock persists, a nephrectomy is necessary. If the kidney is destroyed and not functioning, a nephrectomy should also be discussed [3]. Based in a case of giant pyonephrosis complicating a pyelo-ureteral junction syndrome revealed by an intestinal obstruction, we review the literature.

CASE PRESENTATION

A 67-year-old patient, without any particular pathological history, consults in the emergency department for abdominal pain with stools and gas stoppage that has been evolving for four days. All this in a context of fever and alteration of her general condition.

Clinically, an asthenic patient (Performas Status = 3), hemodynamically stable with fever (T = 38.1°C) was noted. Abdomen was distended with a palpable mass on the right hypochondrium to the flank (Figure 1) with right lumbar tenderness. The external genitalia and pelvic

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examinations (PR and PV) were unremarkable. The lymph node areas were free.

Biologically, hemoglobin 7.1 g/dl, white blood cells 18,010/mm3 predominantly neutrophilic polynuclear cells, c-reactive protein 104 mg/L, plasma creatinine 21 mg/L, urea 0.9 g/l, kalemia 5 mEq/L.

Ultrasound revealed major multipartitioned echogenic pyelo-caliciel dilatation (Figure 2). On CT scan, the right kidney is increased in size, pushing back the digestive structures, coming into contact with the abdominal wall, site of a major multi-partitioned dilatation almost completely laminating the cortex on a pyelo ureteral junction syndrome and discrete infiltration of peri-renal fat (Figure 3).

The procedure used was a nephrostomy with pus sampling for cytobacteriological study (a germ was isolated, Escherichia Coli multi-sensitive), bi-antibiotherapy was started (ceftriaxone and ciprofloxacin), blood transfusion with clinico-biological surveillance.

Figure 1: Distended abdomen with a palpable mass at the level of the right hypochondrium and flank.

The evolution was favourable on the clinico-biological level marked by the improvement of his general condition, the improvement of the fever, the resumption of transit and the normalisation of the biological parameters (haemoglobin, white blood cells, c-reactive protein and creatinine). The nephrostomy brought back a total of 4 litres of pus.

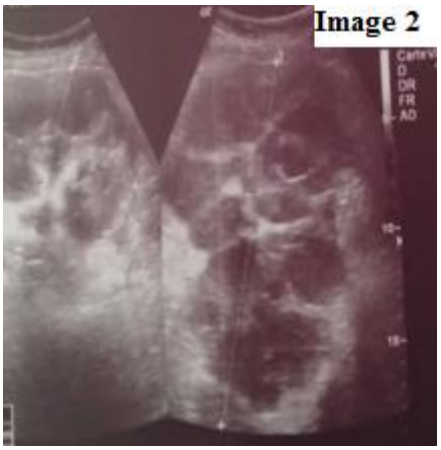

Figure 2: Ultrasound image in favor of an important echogenic multipartitioned pyelo-calcicular dilatation.

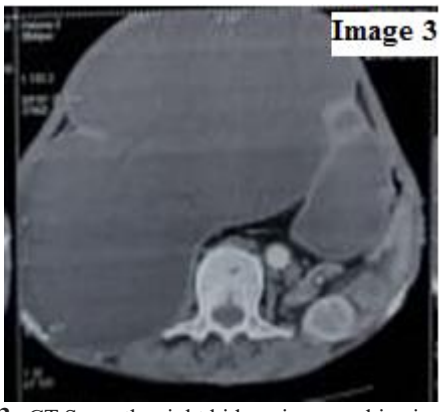

Figure 3: CT Scan: the right kidney increased in size, pushing back the digestive structures, coming into contact with the abdominal wall, seat of an important multi-partitioned dilatation almost completely laminating the cortex on a pyelo ureteral junction syndrome and discrete infiltration of the peri-renal fat.

DISCUSSION

Pyonephrosis is the parenchymatous destruction of the kidney by a suppurative process in a hydronephrosis field (without presuming its origin). It usually results in a rapid and complete loss of function of the affected kidney if left without treatment [1]. The field is most often of a severe, chronic, progressive pre-existing uropathy [4]. In our case, it's a pyeloureteral junction syndrome.

The accumulation of purulent exudate in the collecting system and the formation of absceses constitute the pathophysiology of the pyonephrosis [5].

Gram-negative germs and mainly *E. coli* and *Proteus sp* are the most frequently isolated germs [4,6]. In our patient, Escherichia coli was isolated from pus collected during nephrostomy.

Pyonephrosis is usually accompanied by flank pain, fever or chills [7]. Hematuria and abdominal distension are rare presentations. A total of 15% of patients may remain asymptomatic. Infection with hydronephrosis can lead to fulminant infection such as urosepsis, especially in immunocompromised patients [4]. Our patient presented an atypical picture: an occlusive syndrome. Her general condition was altered, and biologically there was a severe infectious syndrome.

Ultrasound and CT scan can characterize the dilatation. However, CT has an added value, as it better identifies renal function, causes of obstruction (stones, retroperitoneal fibrosis, metastatic masses, etc.) [9]. Both techniques allowed us to see the dilatation which was echogenic and multipartitioned. The scanner made it possible to characterize the nature of the obstruction, it was a pyelo ureteral junction syndrome.

Treatment is usually urgent. It's based on emergency drainage of the pus with an ureteral catheter or nephrostomy, systemic antibiotic therapy with control of sepsis and etiological treatment [2]. We performed a nephrostomy about 4 liters of pus was drained. The ultimate outcome was favourable. A delayed nephrectomy was realised. Few studies have reported cases of giant pyonephrosis on a pyelo ureteral junction syndrome. To our knowledge, we report the first case of pyonephrosis manifesting an occlusive syndrome.

CONCLUSION

Pyonephrosis is a suppuration of the renal parenchyma. It is rare and severe and it can lead to septic shock. It rarely manifests itself as an occlusive syndrome. Rare cases of giant pyonephrosis complicating an occlusive syndrome have been described in the literature.

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