CASE REPORT

Adrenal abscess in a 7-weeks old infant

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ABSTRACT

We report a 7 weeks old female infant who came from Bishoftu and was seen in our Pediatrics out-patient department with a complaint of abdominal distension which the parents noticed when they took her for immunization. On imaging, we found that she has right supra renal mass which is a rare finding in infants this young and managed with serial ultrasound and drainage.

Key words: *abscess, adrenal, Bishoftu*

INTRODUCTION

Abscess formation in the adrenal gland is uncommon in young infants and neonates [1]. Bacterial colonization of an adrenal hematoma is presumably the most likely cause [2]. It is suspected that, in most cases, it develops as a consequence of an adrenal hematoma which might be conductive to inflammation and the formation of an abscess. If untreated, the condition may be lethal [2], so timely diagnosis and adequate treatment are of key importance. Surgical exploration is considered standard treatment. We present the case of a 7-week-old girl with an adrenal abscess. The abscess was treated successfully with US-guided percutaneous drainage and serial follow up with ultrasound.

Case report

This is a 7 weeks old female infant born from Para I mother via Spontaneous Vertex Delivery. Pregnancy was said to be uneventful and the baby was on exclusive breast feeding with good suckling reflexes. No history of fever, hypothermia or abnormal body movement. Parents noticed abdominal swelling more on the right side when they took her for immunization at 6 weeks of age. For this complaint they were referred for further investigation and management.

On presentation to our hospital, the infant was not in cardio respiratory distress and had no dysmorphic features. Vital signs pulse rate was 112per minute, respiratory rate was 46 per minute, axillary temperature was 36.7°C and saturation of Oxygen with atmospheric air was 95%. Weight at presentation was 3.7kg. On abdominal examination there was distension of the abdomen more on the right side with visible veins. Reflexes were intact with normal tone. With an assessment of abdominal distension, abdominal ultrasound was done and showed 4.8x4cm hypo echoic mass lesion adjacent to the upper pole of the Right kidney pushing the liver anteriorly. With an impression of Right Suprarenal mass, to Rule out hematoma collection, abdominal CT was recommended. Abdominal CT done revealed right supra renal abscess or hematoma. Then they were referred to Bethezata Hospital for evaluation and management by pediatric surgeon. There ultrasound guided tap was done and pus mixed with blood came out. Sample sent for analysis and on Gm stain there was no organism.

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The infant was referred to Tikur Anbessa Specialized Teaching Hospital (TAH). In TAH surgical team evaluated her and did ultrasound guided tap which revealed similar fluid as obtained in Bethezata Hospital. Surgical intervention was deferred and she was admitted for 10 days, treated with triple antibiotics and discharged home for follow up. Follow up with abdominal ultrasound is done every 2 weeks and there is decrement in the size of the mass.

The following are images from a CT scan of the abdomen

Fig-1-5 Arrow shows cystic lesion on the right side of the kidney.

Discussion

An adrenal abscess in a neonate and young infants is a sporadic clinical problem (fewer than 50 case reports [5]). It is suspected to develop mainly because of a super infection and inflammation within the site of previously extravasated blood to the adrenal gland, which is favored by the specific structure of this organ [3, 6,7]. In neonates, the adrenal glands are relatively large, because of the presence of the persistent fetal cortex, and well-vascularized. The broad availability of ultrasonography on neonatal units enables adrenal hematomas to be detected more and more frequently. It is estimated that they develop in 1.7–2.1 per 1,000 neonates. They are statistically more frequent in boys born at term with significant perinatal history (birth trauma, perinatal hypoxia, intrauterine infection, coagulation disorders) [7,8]. Because of different anatomical conditions, hemorrhage occurs in the right adrenal gland in approximately 70% of cases. The right gland is located between the liver and spine which may compress it. Moreover, the direct connection of the right adrenal vein with the inferior vena cava and coexisting risk factors are conducive to disorders in blood outflow from the gland and to blood extravasation. This pathology is bilateral in only 10–15% of cases [9]. More rarely, adrenal abscesses develop as a result of a hematogenic infection and spread of bacteria to "normal" adrenal glands, which is observed in neonates with sepsis [7, 10,11].

Two theories have been proposed for the development of adrenal abscess: first, hematogenous bacterial seeding of a normal adrenal gland and second, the seeding of a neonatal adrenal hemorrhage with subsequent abscess formation. [13],[14] In some cases, the etiology may be unclear. [15] In most reported cases, bacterial examination of abscess material revealed E. coil, [12],[15],[17] or Staph aureus [16] but Streptococcus, Bacteriodes, Echovirus, and Herpes simplex could also be isolated. [12],[13],[18],[19]. In our patient, bacteriological studies were negative.

The clinical signs that accompany adrenal abscesses are non-specific. They usually include: fever, irritation, difficulty with feeding, no weight gain and a tumor in the abdominal cavity [3, 4,7].

The treatment of choice for adrenal abscess is drainage. Mondor et al., [12] described successful drainage using a pigtail catheter placed under Ultrasonography guidance. Antibiotic therapy was continued for 2 weeks. The authors stressed the need to closely follow up the patient by regularly repeated Ultrasonography until the adrenal gland is back to normal size. [12] The mainstay of treatment, especially for large lesions or where differentiation from a malignant lesion is difficult is surgical drainage with or withoutexcision. [15],[16]

Conclusion

In conclusion we would like to point out that percutaneous drainage under ultrasonography guidance of the adrenal abscess has good response. Ultrasonography, CT scan, and magnetic resonance imaging are essential diagnostic aids. Early diagnosis and early nonsurgical treatment may lead to a successful outcome with decreased incidence of unnecessary laparatomy and medical complications.

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