CT- GUIDED TRANSRECTAL DRAINAGE OF DEEP PELVIC COLLECTION

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ABSTRACT

Postoperative deep pelvic collection was treated by transrectal catheter drainage under CT guidance in a 48 year - old female patient. The immediate result was dramatic. No procedure-related complications were seen. Long-term follow up was done by ultrasonography and revealed no residual or recurrent collection.

INTRODUCTION

Surgical drainage of the intraabdominal fluid collection is the conventional treatment of choice for a long time. Nowadays, radiologically interventional procedures are becoming popular. A case of transrectal drainage of pelvic abscess using the CT scan-guidance was reported.

CASE REPORT

A 42 years-old female with congenital spherocytosis was presented with hypersplenism and gallstones. Splenectomy and cholecystectomy were electively performed. Three days after the operation, she had hypovolumic shock and the second operation was done immediately. Bleeding at splenic artery stump was found and ligation was done. She still had fever and lower abdominal pain after the second operation. Transabdominal ultrasonography was performed (figure-1). The study revealed 8 cm.diameter collection at cul de sac and another 4 cm.diameter collection at left subphrenic region. Radiological intervention was offered, and the drainage procedures were followings;

1. The patient was placed in left lateral decubitus position on the CT table. Scanning was performed to locate the abscess.

2. Plastic introducer(tube) was inserted to rectum and repeated CT were obtained at the level of abscess to confirm the proper position (figure-2).

3. Without local anesthesia,16-G Chiba needle was then inserted via the plastic introducer and was directed toward the abscess by slight angulation of the needle-introducer assembly anteriorly (figure-3a,3b). The needle was advanced through the plastic introducer and the rectal wall to reach the abscess.

4. The inner stylet was removed and fluid aspiration was done to confirm the proper needle position. Foul-smell brownish fluid was obtained and sent for Gram stain. Numerous WBC and bacteria were found.

5. A 0.035 -inch guidewire were advanced through the needle and CT scanning were performed to verify the position of the guidewire (figure-4),then varying size of dilators were used to dilate the tract by Seldinger'technique before placing the 10-F Cope loop drainage catheter in the abscess cavity.

6. Suction and irrigation via the drainage catheter were done and the pigtail catheter was looped and taped to the buttock. Postprocedure CT scan was obtained (figure-5a ,5b).

Fever was subsided at the second day post drainage. The total pus contents was 200 ml. No bacterial growth was found on culture(may be

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partially antibiotically treated). During placement of the catheter, the patient had normal life style.

Minimal residual collection was noted by ultrasonography performed on the 7th day post drainage. Left subphrenic collection was percutaneously aspirated using the ultrasound-guided method and non-infected fluid was obtained. The catheter was withdrawn on the 8th day post drainage and the patient could be discharged. No residual or recurrent abscess was seen at interval follow up by ultrasonography up to 5 months and the patient was asymptomatic.

Fig. 1 Preprocedural ultrasonography reveals 8 cm. diameter abscess in the cul de sac.

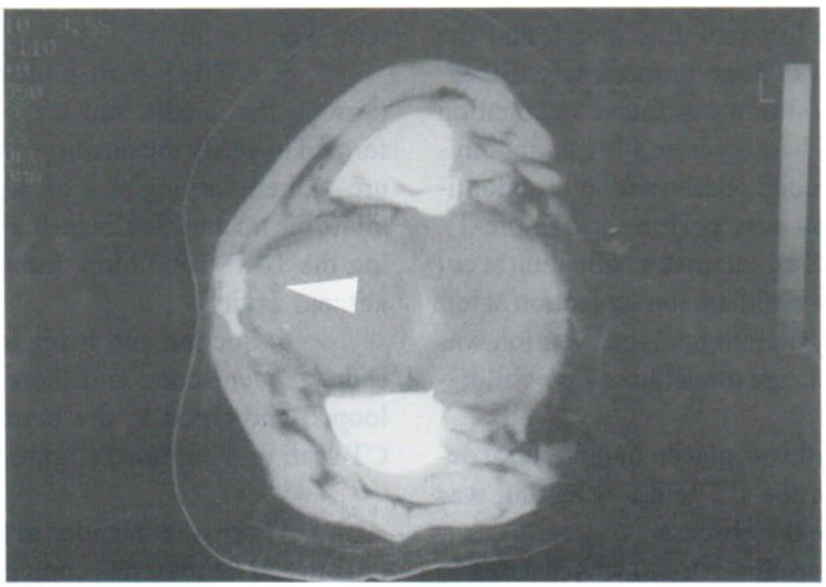

Fig. 2 Left lateral decubitus CT scan of the lower pelvis demonstrates plastic introducer in the rectum at the level of the abscess

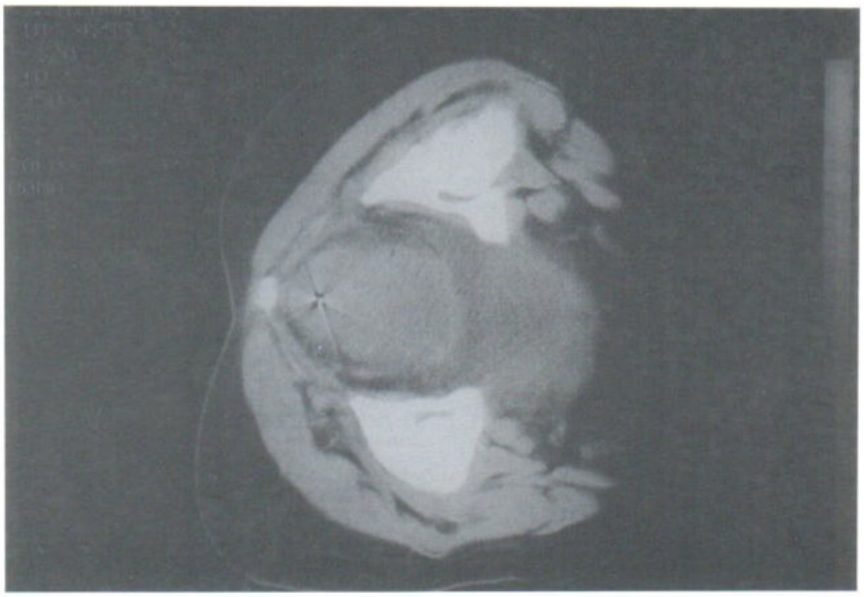

Fig. 3a. Left lateral decubitus CT scan of lower pelvis demonstrates 16-G trocar needle in the rectum at the level of the abscess.

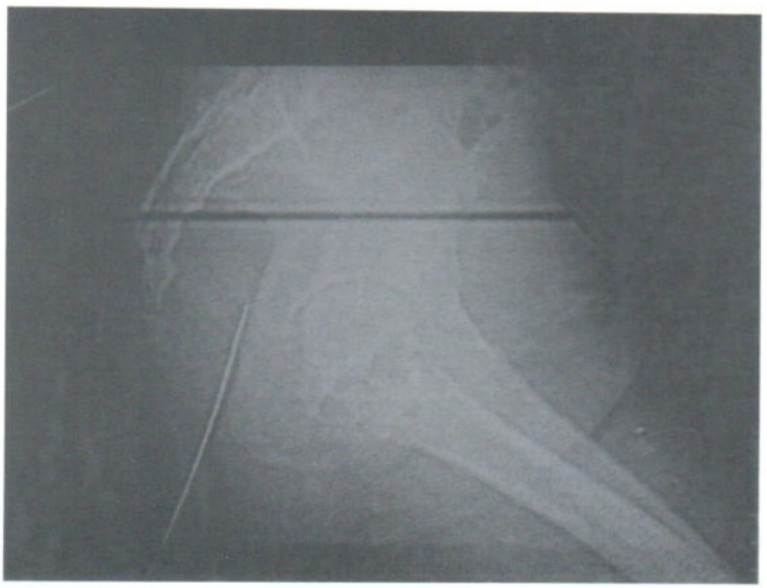

Fig. 3b. Scannogram shows the needle in the rectum before entering the abscess wall.

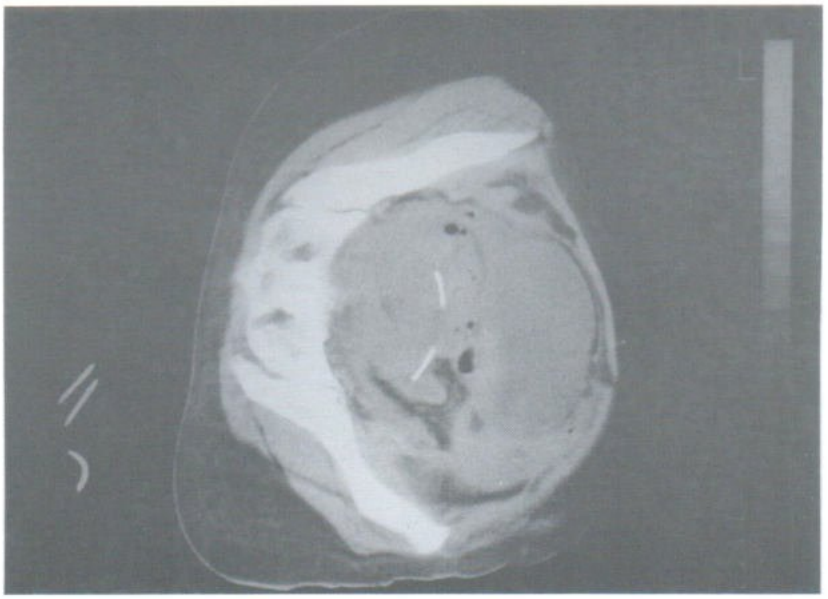

Fig. 4 After puncturing the abscess, the guidewire is inserted and was seen locating within the abscess.

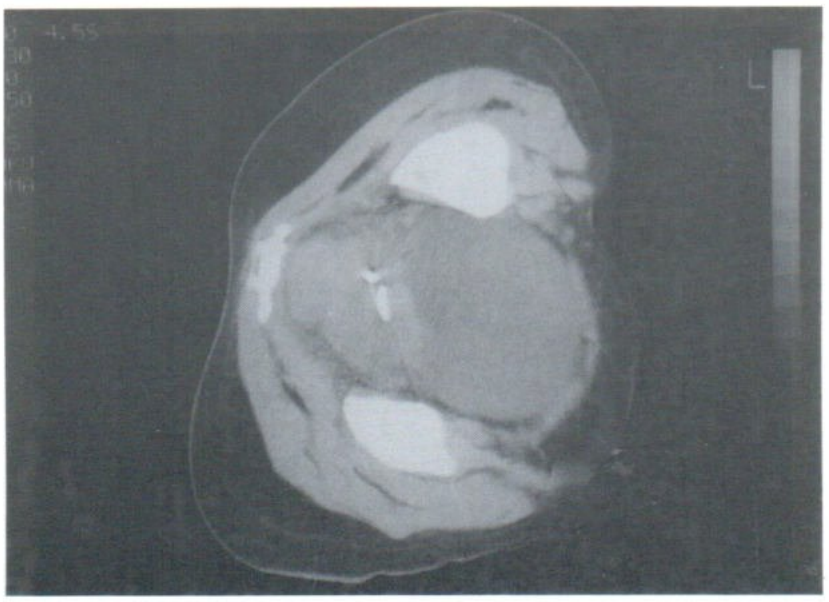

Fig. 5a. 10-F Cope type drainage catheter is shown within the abscess.

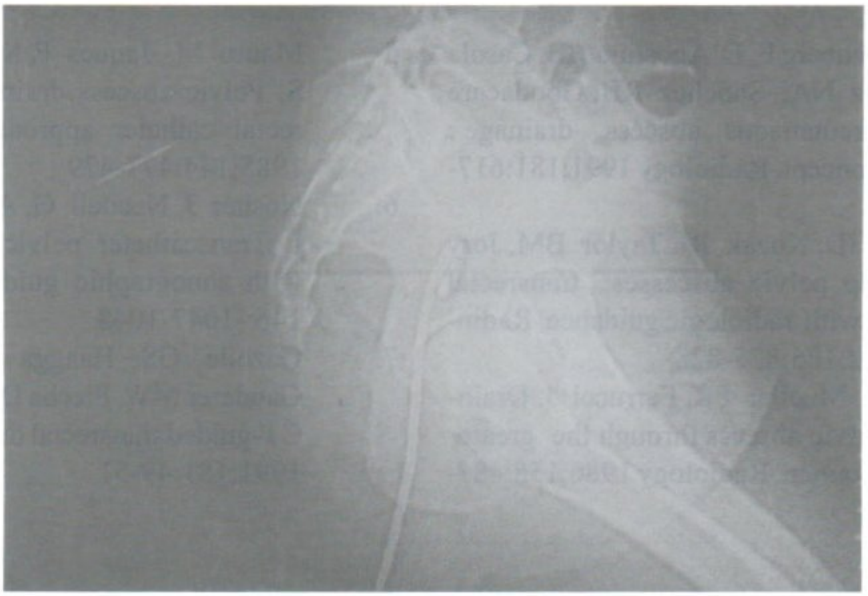

Fig. 5b. Scannogram is performed after placement of the drainage catheter in the abscess

DISCUSSION

Transcatheter drainage for abdominal and pelvic abscess is worldwide accepted to be effective and safe.[1] The anterior or anterolateral transabdominal approach is still preferred despite some of limitations.[2] Suitable access may be obstructed by bladder,neurovascular or osseous structures with the risk of intraperitoneal contamination.[3]

Butch et al.[4] reported severe pain using the posterior transgluteal approach with the risk of contamination of the muscle and fascial planes of the buttock. In addition,the greater sciatic foramen is an anatomically complex space for the passing of the sciatic nerve and the superior and inferior gluteal vessels.

Transrectal approach offers the shortest and the most direct access route to many of these collections. It has traditionally been performed by surgeons in cases of large collections which are palpable at rectal examination. Mauro et al.[5] described a technique for transrectal drainage under fluoroscopic guidance. Nosher et al.[6] described anterior transrectal drainage of palpable pelvic abscess under transabdominal ultrasono-graphic guidance. Bennett et al.[3] used combined transrectal ultrasonography and fluoroscopy for transrectal drainage of non-palpable pelvic abscess. The only one paper of CT-guided transrectal drainage has been reported by Gazelle et al.[7] and had the same technique as in this report. They found 100 % successful rate with no complication or recurrence.

CT provides accurate display of the anatomy and is not limited by the presence of bowel gas or surgical dressing. Small or deeply located abscess can be clearly visualized by CT images. Intraperitoneal and muscle contaminations can be avoided. The procedure is not painful and is well tolerated by the patient.

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