Ultrasound guided endoscopic posterior neurectomy; the first report for ACNES*

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＊anterior cutaneous nerve entrapment syndrome

Background: Anterior cutaneous nerve entrapment syndrome (ACNES) is a rare etiology of acute abdominal pain. Although it is not life-threatening, it sometimes challenging because of its severe abdominal pain. Injection of local anesthesia with or without steroid is generally recommended, and surgery is an option after other non-operative therapy have been failed. While open anterior neurectomy has been reported as a standard, considering many of patients are adolescents or young adults, endoscopic approach is better from the point of view of cosmetic advantage. Herein, we present our new technique for ACNES. This is the first report of ultrasound guided endoscopic posterior neurectomy.

Case report: A 27-year-old female was brought to our emergency department with sever upper abdominal pain. She was alert and vital signs were stable. She had been complained severe epigastric pain with tenderness. There were no peritoneal signs and carnet sign was positive. Image studies and laboratory tests were all negative. So, we suspect the etiology of her pain was ACNES. Local anesthesia was tried and just after injection the pain was relieved. Although the accurate diagnosis was made, the duration of pain control was limited only three hours which was same with the length of effectiveness of local anesthesia. She had been needed frequent injection, and unfortunately her pain gotten worse each time. We also tried to use steroid and failed. Because she couldn't enough move and eat du to pain, she was not able to go home. After several discussions, we decided to try surgery. Although we didn't have enough experience, we choose endoscopic posterior neurectomy which was done taking advantage of the experience of endoscopic surgery for varicose vein of lower extremities. Just after surgery her pain had been completely disappeared and she could discharge with limited area of numbness on her epigastric lesion.

Conclusion: According to previous reports, open and anterior neurectomy was done with its success rate of around 70%. However, considering of its operative scar, we wonder the number is feasible or not especially for young women. So, this time we choose endoscopic surgery for the reason of cosmetic advantage. We will present the detail and tips of this surgery with intraoperative movies.

Surgery details: We planed the cut of the 5th to7th left intercostal nerves in which we had already succeeded temporally pain control using the injection of the local anesthesia. At first, the amount of 50cc of normal saline was injected under ultrasound guided between rectus abdominis muscle and its posterior sheath (fig.3a). Then, we got a working space to insert a trocar (fig.3b,c). The working space was extended by blunt dissection using cherry dissector (fig.4a). The branch of the anterior cutaneous nerves was easily detected (fig.4b) and cut by the ultrasound coagulation device (fig.4c). Then, ultrasound guided posterior neurectomy for anterior cutaneous nerve was completely made.

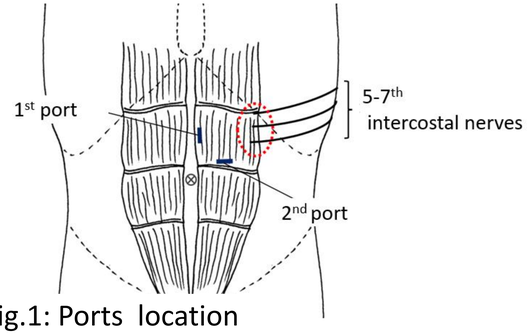


Fig.1: Ports location



Fig.2: Outlooks

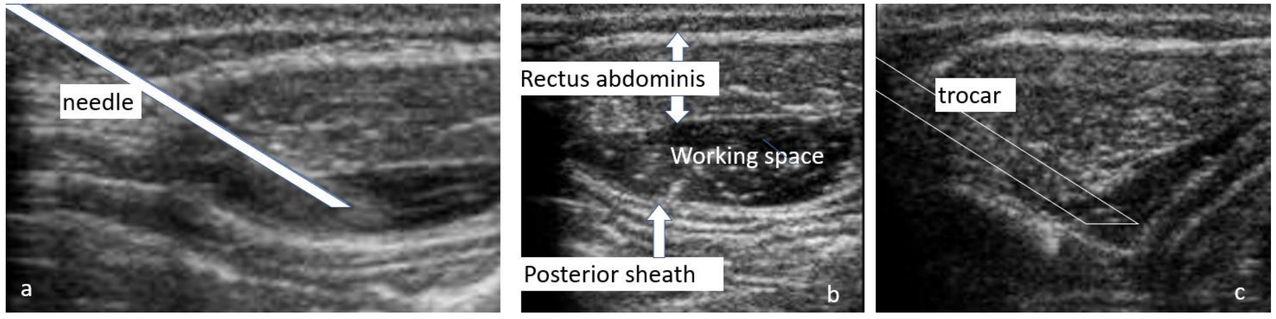


Fig.3: Ultrasound views

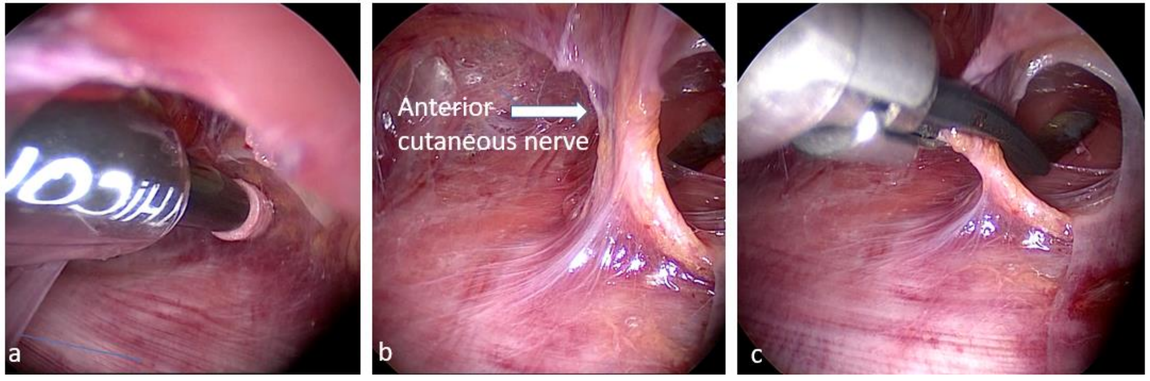


Fig.4: Endoscopic views