Dorsal Percutaneous Chemo-sympathectomy for Palmar Hyperhidrosis: A Case Presentation and Surgical Technique

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Introduction

Palmar Hyperhidrosis (PHH) is a functional disorder that negatively effects people both socially and psychologically. Cervical sympathectomy has been reported effective long term treatment for PHH. Author presents a successfully treated PHH case by the Dorsal Percutaneous Chemo-sympathectomy (DCS) and underutilized minimally invasive technique.

Methods

A 36 years old woman presented with bilateral PHH. Patient did try medical management of PHH but failed. Patient developed social hesitant and troublesome in her job related with bilateral PHH. Patient underwent staged bilateral needle DCS using pure alcohol injection for palmar hyperhidrosis.

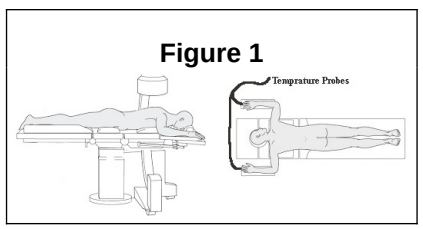
Surgical Procedure

The patient was admitted on the morning of operation day after fasting at least for 6 hours. Oxygen nasal cannula, pulse and pulse oximetry were monitored by the anesthetist throughout the procedure. Bilateral palmar temperature probes were placed to observe palmar temperature changes during the cervical sympathectomy procedure. The patient was placed in prone position and the C-arm brought into the operative field (Figure 1).

Surgical Procedure, continued

The procedure was done mainly under local anesthesia and mild sedation with Fentanyl 1-2 mcg/kg IV slowly given by the anesthetist. The 3nd intercostal space was identified in the A-P position by the fluoroscopic exam (Figure 2A). Appropriate prepping and dressing were performed in surgical filed. A 20 G 10-cm spinal needle was introduced under image guidance just lateral to the vertebral body in the 3rd intercostal space aiming for the cervical sympathetic chain (Figure 2B). The C-arm was brought into the lateral position and the tip of the spinal needle was advanced until it was under the neck of the 3rd rib (Figure 2C). After correct positioning of the needle adjacent to the cervical sympathetic ganglion, 1 ml water-soluble contrast media (Iohexal) was injected after aspiration to check for absence of free air or blood backflow. Contrast media dissemination was observed along the cervical sympathetic chain under fluoroscopy (Figure 2D). Complete ipsilateral cessation of palmar hyperhidrosis and palmar temperature increase were observed by cervical sympathetic block using 2 mL of 1 % xylocaine injection. After this, 2 ml absolute alcohol (97 %) was injected to chemically ablate the sympathetic ganglion. The patient was transferred to intermediate care unit for 4 h observation for vital signs and respiration. A chest X-ray was taken to exclude pneumothorax. Eventually, the patient was discharged to home on same day with simple analgesics.

Figure 1



Results

Patient's right sided PHH completely improved immediately after the procedure and the procedure was not complicated. Left sided DCS did provide 30% reduction of PHH. Left sided DCS procedure also complicated with minor Horner's syndrome. Eventually, left sided Horner's symptoms were resolved in five months. Unfortunately, left PHH recurred after nine months from the first procedure. Left sided DCS was repeated. Left sided second DCS procedure was not complicated and provided 90% reduction of PHH. Complete resolution of right PHH and 90% resolution of left PHH were observed on 16 months follow-up.

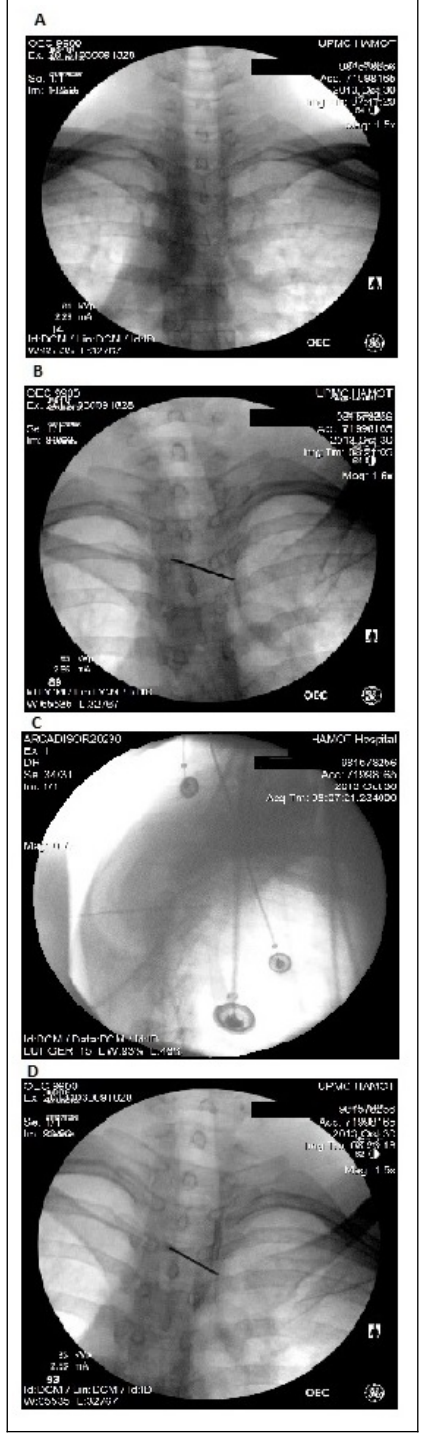
Conclusions

DCS is a percutaneous minimally invasive outpatient needle procedure. It is easily repeatable as necessary with the minimally invasive nature of the procedure. DCS provides reasonable Immediate and long treatment effect for treatment of the PHH.

Learning Objectives

DCS is a minimally invasive needle procedure for the treatment of palmar hyperhidrosis.

Figure 2



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