

## A Discussion On the Transient Neurological Phenomenon of Osmidrosis Surgery

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### 1. Letter to Editor

The current literature on the complications of osmidrosis surgery is focused on postoperative hematoma, skin flap erosion or necrosis, skin pigmentation, scarring or recurrence. Little is known about the common but transient and reversible cutaneous nerve injury. The purpose of this paper is to document neurological complaints from the patients to improve future post-surgical care for patients of osmidrosis surgery.

This study analyzed 118 subjects who went through osmidrosis surgery in our clinic. The osmidrosis operation is performed to out-patients in our clinic under local anesthesia. Two small 5mm incisions are made under the armpit for subcutaneous dissection. Then a small scissor is used to cut off the apocrine gland manually. After the surgery, the incision is secured with yarn ball to prevent hematoma. The yarn ball is removed two days after the surgery. Among the 118 subjects, 13 patients complained of transient neuropathic related problems within three months after surgery either one or both axillae. The proportion of those with transient nerve injuries is quite high, but all normalized and recovered within a period of three months (Table 1).

The first category of 3 patients, who complained of muscle stiffness and pain in the shoulder, arm and forearm on third day after the operation or on the day the dressing was removed, is suspected to have muscle stiffness caused by the prolonged postoperative binding that positioned the arm in the same posture for an extended period of time. This caused stiffness in the shoulder, arm, and forearm. After the removal of the gauze, when free movement was allowed, the muscle felt sore, similar to the occurrence of neck

stiffness. This case usually improves in a week's time.

**Table 1:** The common complaints are summarized into three main categories of the 13 subjects either one or both axillae

Category	Complaints	# of Subjects
1	Muscle stiffness and pain in the shoulder, arm and forearm	3 subjects
2	Tenderness or numbness and pain in the inner side of the arm	7 subjects
	Tenderness or numbness and pain in medial side of the forearm	2 subjects
3	Sore skin on the outside of the forearm and muscle tendon pain and tenderness at flexion	1 subject

The second category of subjects are those who made a complaint on tenderness or numbness and pain in the inner side of the arm. This type of complaints ranges from very slight to moderate, with or without the flexion. Stretched tendons are visible at the bending of the arm. Daily activity is minimally affected. Pain is mostly eased with hot compress, but this condition lasts about 2-3 weeks. Because the armpit is where intercostobrachial cutaneous nerve and antebrachial cutaneous nerve pass through; therefore, there is pain on the inner side of the arm [2]. If either the intercostobrachial cutaneous nerve or the medial brachial cutaneous nerve is injured

during the surgery, then there will be neuropathic pain on the inner side of the arm which appears one to two weeks later. If the medial antebrachial cutaneous nerve is damaged during the operation, then there will be tension and tenderness on the medial side of the forearm. Similarly, the use of warm compress will improve the symptoms. The damage in both areas recovers within a week and the pain disappears in 2-4 weeks. We want to highlight this analysis due to the fact that the medial cord of the brachial plexus divides into medial brachial cutaneous nerve (T1) and the second intercostal nerve, which forms the intersection of intercostobrachial nerve and medial antebrachial cutaneous nerve (C8, T1) through the underarm skin.

The third case with complaints of sore skin on the outside of the forearm and muscle tendon pain and tenderness at flexion has the least occurrence, but it may be a more serious one. With this complication, it took the patient one month to fully recover. Among all the subjects, this one lasted the longest time to recover. The reason for analysis is due to the damage in the musculocutaneous n, which are divided into the muscle branch and sensory branch located on the anterior side of the axillary. The muscle branches laterally cross the coracobrachialis muscle, then in between the brachialis muscle and the biceps brachii muscle. This can cause pain during muscle flexion. The sensory branch lateral antebrachial cutaneous nerve is divided into: 1. Lateral antebrachial cutaneous nerve which innervates the sensory nerve and anterior skin of the lateral forearm and 2. post branch of lateral antebrachial cutaneous nerve which innervates the posterior skin of the forearm [3]. The analysis of this transient complication is unavoidable because the cutaneous nerves are very superficial and cannot be seen during the operation. However, because most of them are recoverable, only slight attention and treatment is necessary. Aside from the discomfort during flexion, it does not hinder daily activities.

In summary, we have identified three categories of transient neurological phenomena after osmidrosis surgery. The purpose of this paper is to analyze the discussed phenomena and to inform surgeons who rarely perform osmidrosis operations of its possible occurrence, not just the commonly listed complications.

## References

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