02

Submandibular Gland Excision

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Submandibular Gland Excision

STEP 1 INCISION

The skin incision is made at the hyoid level or 3 cm below the inferior border of mandible. **Figure 1**

Elevate subplatysmal flaps up to the inferior border of mandible.

STEP 2 HOW TO PROTECT THE MARGINAL MANDIBULAR NERVE

Identify the facial vein at the notch of the mandible and at the superior border of the submandibular gland.

The marginal mandibular nerve may then be exposed above the facial vein through dissection of the superficial cervico-fascial layers. **Figure 2**

Alternatively, the facial vein is divided and slung superiorly to protect the marginal mandibular nerve (Hayes Martin maneuver).

STEP 3 IDENTIFY LINGUAL NERVE AND HYPOGLOSSAL NERVE

Free the submandibular gland (SMG) from the anterior belly of digastric and the lateral surface of mylohyoid mucle. Divide the mylohyoid vessels. **Figure 3**

The free edge of the mylohyoid muscle is identified and retracted superior and laterally to expose the lingual nerve, hypoglossal nerve and Wharton's duct. **Figure 4**

After ligating the facial artery and vein superiorly, the SMG is retracted inferiorly to identify the submandibular ganglion that is then divided to free the lingual nerve, taking care not to place the tie across the main nerve. **Figure 5**

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STEP 4 IDENTIFY AND DIVIDE THE FACIAL ARTERY

The Wharton's duct is divided after identification of hypoglossal nerve. During surgery for sialolithiasis, the surgeon should follow and divide the duct anteriorly close to the floor of the mouth, so as not to leave behind a calculus.

The SMG can then be reflected inferiorly and the facial artery identified, ligated and divided where it exits from behind the posterior belly of the digastric muscle. **Figure 6**

The SMG is then completely excised following completion of the dissection off the tendon and posterior belly of the digastric muscle.

Figure 1
Upper neck incision at hyoid level

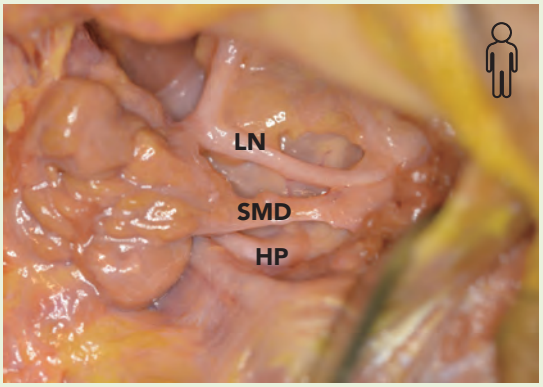

Figure 4
Mylohyoid muscle retracted to expose the lingual nerve (LN), submandibular duct (SMD) and hypoglossal nerve (HP)

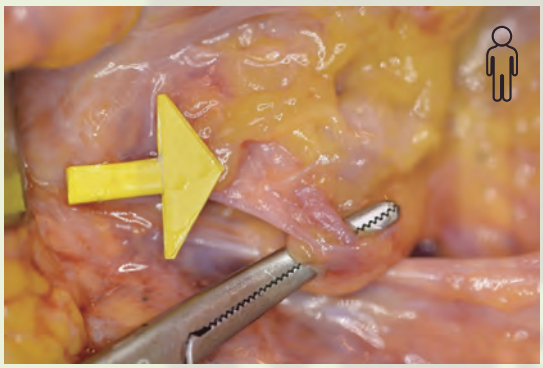

Figure 2
Marginal mandibular nerve (yellow arrow) crosses the facial vessels

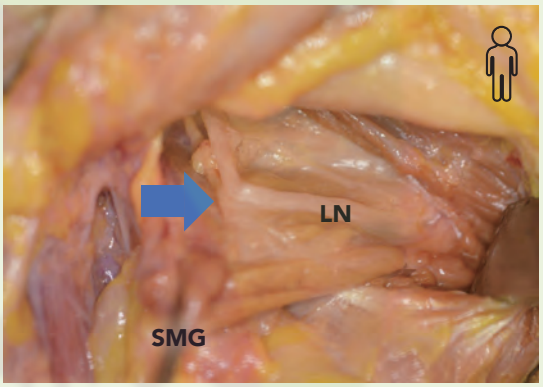

Figure 5
Submandibular gland (SMG) retracted downward to show the lingual nerve (LN) and the submandibular ganglion (blue arrow)

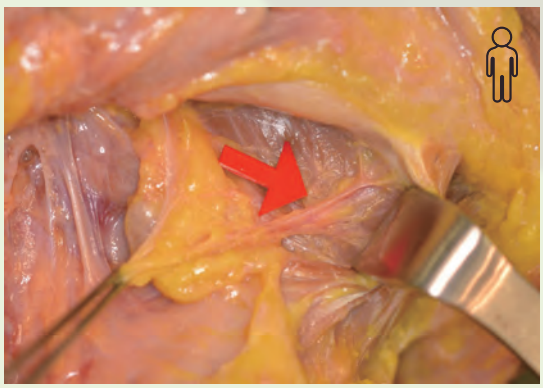

Figure 3
Mylohyoid vessel (red arrow) exposed after anterior belly of digastric is retracted

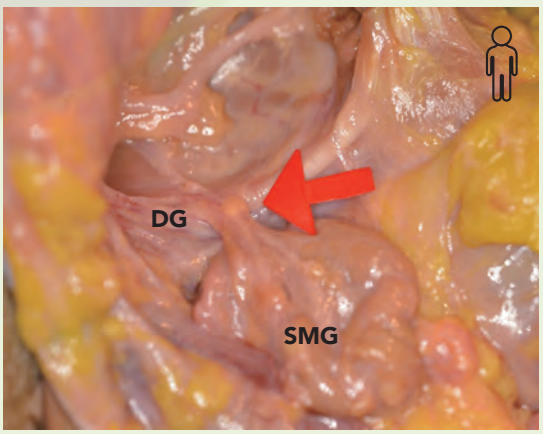

Figure 6
Facial artery (red arrow) passes behind the posterior belly of digastric (DG)

KEY POINTS

1. Skin incision 3 cm below the border of the mandible.
2. Preserve the marginal mandibular nerve through direct identification or subcapsular dissection.
3. Identify and free the lateral surface of the mylohyoid muscle to permit its retraction.
4. Identify the lingual nerve, hypoglossal nerve and Wharton's duct.
5. Divide the Wharton's duct as anterior as possible in sialolithiasis.
6. Divide the submandibular ganglion.
7. Preserve the lingual nerve and hypoglossal nerve.
8. Ligate the facial artery twice: Once superiorly and again inferiorly as it crosses the digastric muscle.