

## Case Report

## A Parotid Duct Sialocele Arising From Stenon's Duct Injury Due to Face Multiple Stab Wounds

Takeshi Kusunoki<sup>\*1</sup>, Hiroto Homma<sup>1</sup>, Yoshinobu Kidokoro<sup>1</sup>, Aya Yanai<sup>1</sup>, Mitsuhisa Fujimaki<sup>1,2</sup>, Ayumi Yabe<sup>1,2</sup>, Katsuhisa Ikeda<sup>2</sup>

<sup>1</sup>Department of Otorhinolaryngology, Juntendo University of Medicine, Shizuoka Hospital

<sup>2</sup>Department of Otorhinolaryngology, Juntendo University of Medicine, Faculty of Medicine

*\*Corresponding author: Dr. Takeshi Kusunoki, Department of Otorhinolaryngology, Juntendo University of Medicine, Shizuoka Hospital 1129, Nagaoka Izunokuni-shi, Shizuoka 410-2295, Japan, Fax: +81-55-948-5088; Tel: +81-55-948-3111;*

*E-mail: ttksunoki001@aol.com*

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### Abstract

We experienced a case with a salivary cyst arising from a parotid duct injury due to multiple stab wounds to the face. In our case, the parotid duct injury was in front of the masseter muscle. We performed surgery on the central stump side of the parotid duct and cyst opening to the oral cavity under general anesthesia. Moreover, postoperative stenosis of the wound opening was prevented by making a valve flap from buccal mucous membrane to drain the wound for 3 weeks. No cyst has recurred a year after the operation.

**Key words:** Parotid Duct Sialocele; Stenon's Duct Injury; Face Multiple Stab Wounds

### Introduction

Parotid duct injury are rare in Japan and most are caused by facial injuries [1]. Very few cases of post-traumatic parotid duct sialocele have been reported [2]. Kulkarni [3] described that sialocele is a discrete collection of saliva in a subcutaneous cavity that can result from injuries to the parotid duct, presenting as a salivary pseudocyst. Hori [4] suggested that a parotid duct sialocele or fistula could occur by closing a wound during emergency therapy without confirming the course of the parotid duct during emergency therapy. We encountered a patient with a salivary cyst arising from the parotid duct injury due to multiple stab wounds to the face. We describe the clinical findings, image examination and treatments.

### Case Report and Discussion

**Patient:** A 59-Year-Old Japanese Man

**Chief Complaint:** Right Cheek Swelling

**Past History:** He had paralysis of the right hand and foot due to brain hemorrhage five years before.

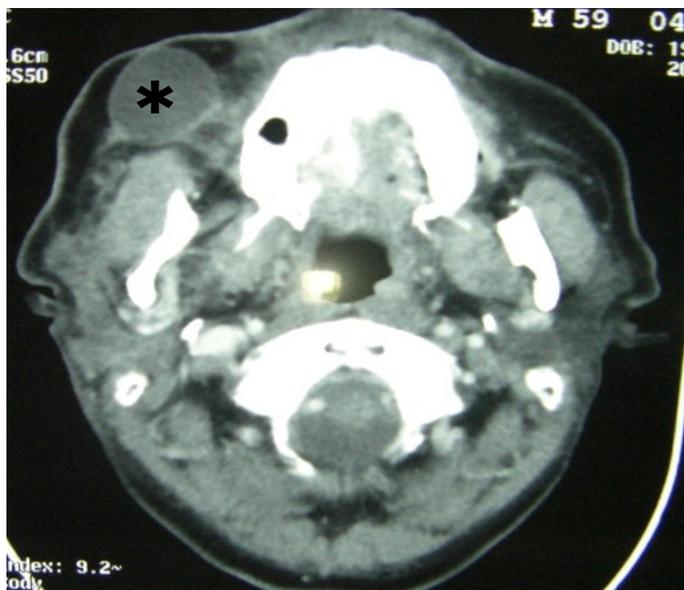
**Present Conditions:** A month before, this patient suffered multiple stab wounds (approximately 70 ) on his face, neck, and limbs. He was transported to the emergency department of our hospital and underwent emergency surgery. The postoperative course was good, but at 1 month after the surgery, he started eating meals and right cheek swelling with tenderness appeared. He was therefore referred to our department.

Initial findings: He had the numerous suture wounds on the face with paralysis of the right mouth angle and a 2X3cm mass with fluctuation in the right cheek, but no salivary fistula (Figure1).



**Figure 1.** Physical examination revealed numerous suture wounds on the face and a mass(asterisk) with fluctuation in the right cheek.

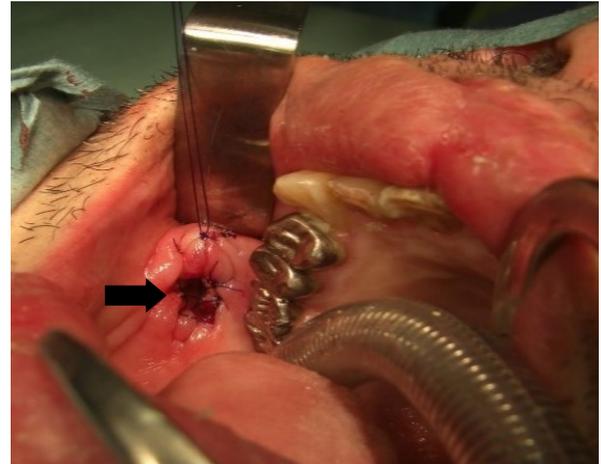
Findings of echo and CT scan demonstrated a 2X3cm cyst in front of the right masseter muscle (Figure2). We considered that rupture and saliva leakage of the parotid duct due to the multiple maxillofacial wounds caused the cyst. Igarashi [5] suggested that the treatment for such a condition would depend on whether the parotid duct injury was located in front or outside of the masseter muscle. In an injury in front of the masseter muscle, the central stump side of the parotid duct opens directly to the oral cavity.



**Figure 2.** CT scan demonstrated a 2X3cm cyst (arrow) in front of a masseter muscle (asterisk).

The recommended surgical technique for a parotid duct injury

outside of the masseter muscle an end-to-end anastomosis of the duct [6]. The operation was performed under general anesthesia. Since the parotid duct injury was in front of the masseter muscle, we selected the central stump side of the parotid duct and cyst opening to the oral cavity. A valve flap made from the buccal mucous membrane was used to drain the wound for 3 weeks in order to prevent postoperative stenosis of the wound opening (Figure 3). No cysts have recurred one year after the operation.



**Figure 3.** In the operative findings, the valve flap provided sufficient drainage after opening the cyst (an arrow).

The above case and the past reports suggest the need to keep in mind the possibility of parotid duct damage in patients with facial trauma. Whether the injury is located in front or outside of the masseter muscle, (by CT imaging) determines the appropriate surgical technique.

## References

1. Takemoto N, Naoko, Yoshiiara T. A traumatic transection of Stenon's duct: A case report. *Otologia Fukuoka*. 44: 338-341, 1998.
2. Lisan Q, Raynal M, Pons Y, et al. Catheterization of post-traumatic parotid duct sialocele. *Eur Ann Otorhinolaryngol Head Neck Dis*. 2014, 131(5): 317-318.
3. Kulkarni A, Chandrassala S, Nimbeni BS, et al. Management of an unusual case of iatrogenic parotid sialocele using an infant feeding tube: a novel approach. *BMJ Case Reports*. 2014.
4. Hori Y, Otsu S, Ishitani Y, et al. Injury of parotid duct; A case report. *Pract Otol*. 61: 194-198, 1993.
5. Igarashi Y, Aso, S, Watanabe Y. Injury of Stenon's duct; A case report. *Pract Otol*. 84:639-644, 1993.
6. Schmieden V. Über die Naht des Ductus stenoianus. *Munch med Wschr*. 1916, 63: 241-242.