

X-ray sialography, ultrasound and sialendoscopy in benign salivary gland obstruction diagnostics

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Introduction

Benign obstruction disease is the most common disorder affected major salivary glands (3.7% of population). In its diagnostics are used ultrasound, computer tomography and relatively new method – sialendoscopy. The sialography isn't used as an essential diagnostic method currently. The aim of the study was to compare effectiveness of X-ray sialography, ultrasound and sialendoscopy in the recurrent salivary gland swelling diagnostics.

Material and methods

Twenty-one patients (11 women, 10 men) suffered from recurrent salivary gland swelling were included in the study from January to October 2012. The patients underwent clinical examination. The X-ray sialography, ultrasound and finally diagnostic sialendoscopy were used in diagnostics of these patients. The results of sialography and ultrasound of the affected gland were compared with the final sialendoscopic results. The sensitivity and specificity of both methods (X-ray sialography and ultrasound) were determined.

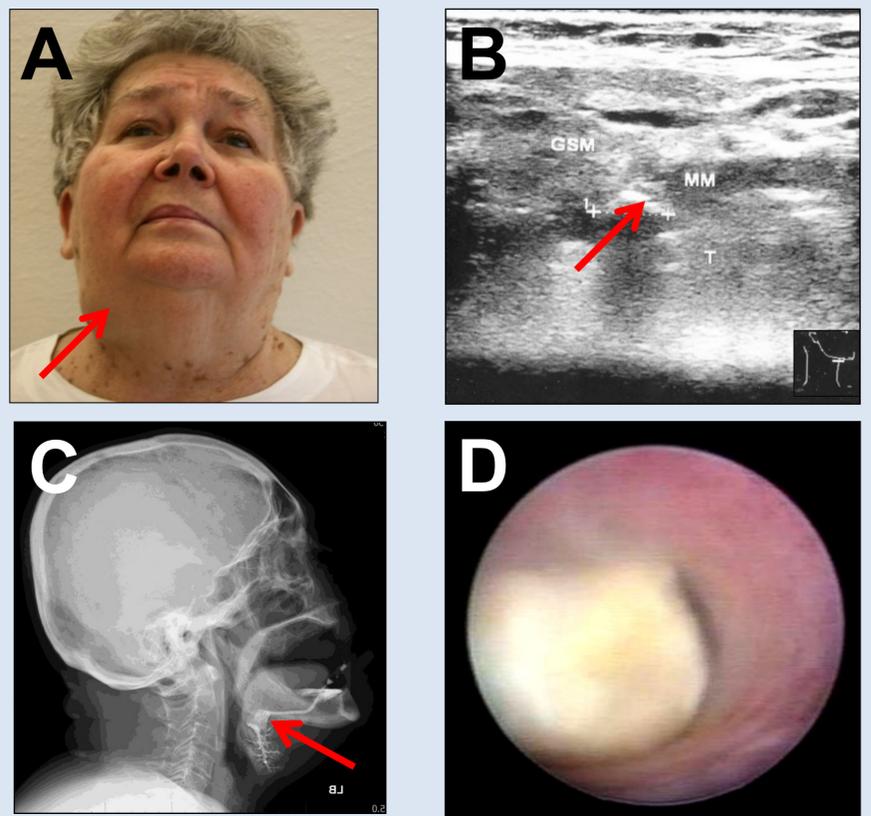
Tab. 1 Methodology of the study

1.	patient's history clinical examination
2.	ultrasound X-ray sialography
3.	diagnostic sialendoscopy
4.	comparison of the methods

Results

The X-ray sialography were better in diagnostics of the ductal stenoses. Its sensitivity in a recurrent salivary gland swelling diagnostics was 75 % specificity of the method 60 %. The ultrasound was better in diagnostics of the patients with sialolithiasis. The sensitivity and specificity of this method were 47 % and 60 %, respectively. The sialendoscopy was used as a comparative method because its sensitivity in the salivary duct pathology is 95 - 99.5%*.

Fig. A – right submandibular gland swelling, B – ultrasound of right submandibular gland (GSM – submandibular gland, MM – mylohyoid muscle, arrow – stone), C – X-ray sialography of right submandibular gland (arrow – stone), D – sialendoscopy: fixed stone in proximal third of right submandibular duct.



Tab. 2 Sensitivity and specificity of X-ray sialography and ultrasound in salivary gland ductal pathology.

	X-ray sialography	Ultrasound
Sensitivity	75 %	47 %
Specificity	60 %	60 %

* Zenk J, Koch M, Klintworth N, König B. Sialendoscopy in the Diagnosis and Treatment of Sialolithiasis. A Study on More Than 1000 Patients. Otolaryngol Head Neck Surg June 29, 2012 0194599812452837.

Conclusion

The sialography is not currently used in a salivary gland diagnostics. This method seems to be better in a diagnostics of the ductal stenoses than ultrasound. Its radiation load is lower compared to computer tomography and its performing is easier than in case of the magnetic resonance imaging. The x-ray sialography has still determinate position in a salivary gland diagnostics.

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