

Sialo-CBCT for salivary gland imaging in Sjogren's syndrome

To the Editor:

We read with great interest the manuscript by Baldini et al. [1] exploring the promising potential of salivary gland ultrasonography (SGUS) as a diagnostic and prognostic tool for major salivary gland involvement in Sjogren's syndrome (SjS). There is currently no specific marker for SjS diagnosis, thus the diagnosis is based on a set of

criteria combining clinical, serological and instrumental parameters. The two latest commonly used sets of criteria are those of the revised American-European Consensus Group (AECG) [2] and the American College of Rheumatology (ACR) [3]. The two salivary imaging techniques in the AECG classification include parotid sialography and salivary gland scintigraphy. Conversely, salivary imaging was withdrawn from the ACR criteria.

Sialography demonstrates the ductal system of the major salivary glands by

introduction of contrast material (iodine) into the orifices of the Stensen (parotid) gland and/or the Wharton (submandibular) gland. In the last decade, cone beam computerized tomography (CBCT) became a common tool for craniofacial imaging [4]. In our center we combine sialography with CBCT (Sialo-CBCT) for imaging major salivary glands in suspected primary and secondary SjS patients [Figure 1]. The major advantage of sialo-CBCT is the three-dimensional detailed visualization of the branched ductal compartment arrangement. Moreover, the radiation dose of Sialo-CBCT compared to conventional CT is markedly reduced.

In conclusion, SGUS and sialo-CBCT methodologies evolved into sensitive instrumental tools enabling better diagnosis and monitoring of the severity of major salivary gland impairment in SjS. Furthermore, since there is a moderate level of agreement between the AECG and the ACR sets of criteria, there is a need for new universally recognized classification criteria that would likely combine apparatuses such as SGUS and sialo-CBCT.

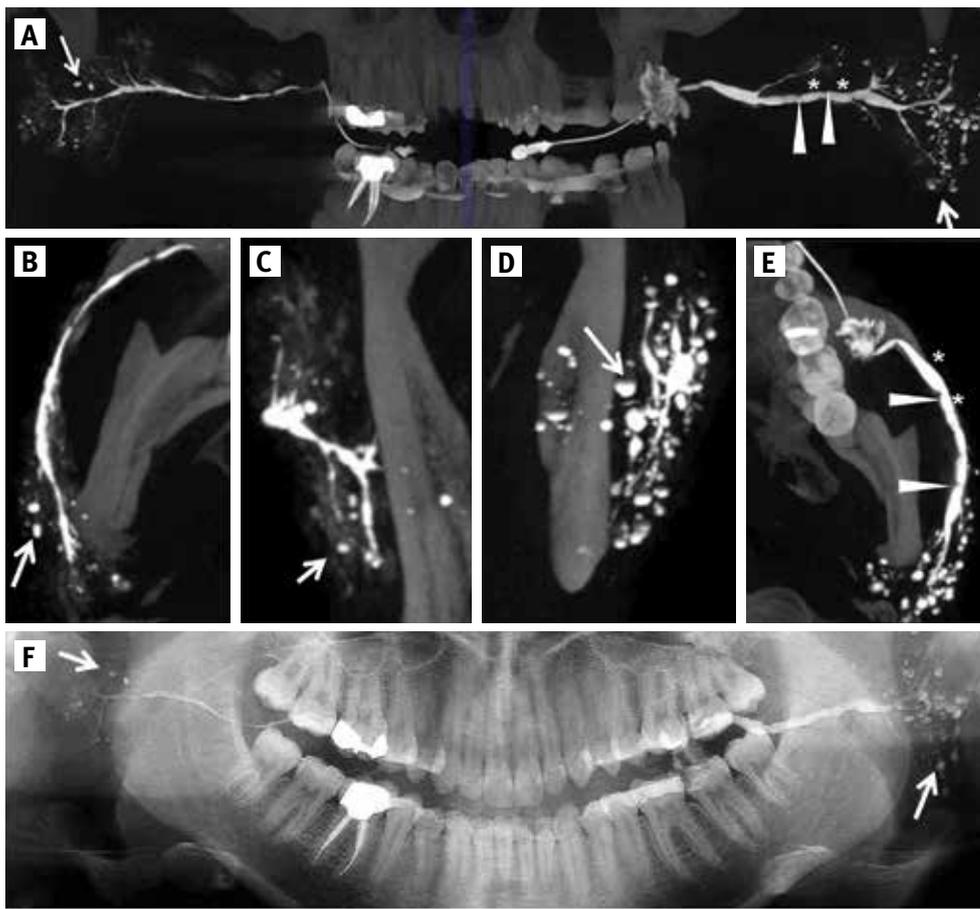
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References

- Baldini C, Luciano N, Mosca M, Bombardieri S. Salivary gland ultrasonography in sjogren's syndrome: clinical usefulness and future perspectives. *IMAJ* 2016; 18: 193-6.
- Vitali C, Bombardieri S, Jonsson R, et al. Classification criteria for Sjogren's syndrome: a revised version of the European criteria proposed by the American-European Consensus Group. *Ann Rheum Dis* 2002; 61: 554-8.
- Shiboski SC, Shiboski CH, Criswell L, et al. American College of Rheumatology classification criteria for Sjogren's syndrome: a data-driven, expert consensus approach in the Sjogren's International Collaborative Clinical Alliance cohort. *Arthritis Care Res (Hoboken)* 2012; 64: 475-87.
- Pauwels R. Cone beam CT for dental and maxillofacial imaging: dose matters. *Radiat Prot Dosimetry* 2015; 165: 156-61.

Figure 1. A 20 year old female referred to bilateral parotid sialo-CBCT due to xerostomia for 4 years without swelling and xerophthalmia for 4 months. Schirmer test was positive, as were antibodies for anti-SSA/Ro and anti-SSB/La. **[A]** Gland image plane showing main duct strictures and dilation (arrowhead and asterisk, respectively), and sialectasis formation (arrows). **[B and C]** Axial and coronal view of the right gland. **[D and E]** Coronal and axial view of the left gland. **[F]** Panoramic image demonstrating incomplete evacuation 5 minutes after catheter removal, showing residual contrast material both in the main ducts and in the sialectasis (arrows)



“I’m the one that’s got to die when it’s time for me to die, so let me live my life the way I want”

Jimi Hendrix (1942-1970), American rock guitarist, singer, and songwriter, considered one of the most celebrated musicians of the 20th century