

Medical > Ex Vivo > Surgery & Pathology

15

Identification of a soft tissue filler by ex vivo confocal microscopy and Raman spectroscopy in a case of adverse reaction to the filler.

Cinotti E, Perrot JL, Labeille B, Boukenter A, Ouerdane Y, Cosmo P, Douchet C, Grivet D, Cambazard F.; Skin Res Technol. 2014 Jul 26. doi: 10.1111/srt.12166.

ABSTRACT

BACKGROUND: Soft tissue fillers are usually identified in the skin using the conventional histopathologic examination. Ex vivo RCM has been used in one case and Raman spectroscopy (RS), which has been recently applied for the identification of skin foreign bodies, has never been employed for fillers. We report the use of both these new techniques, ex vivo RCM and RS, to confirm the diagnosis of adverse reaction to a soft tissue filler and to identify its composition. **METHODS:** We excised a skin nodule suspicious of adverse reaction to soft tissue filler, and we performed an ex vivo reflectance confocal microscopy (RCM) and an histopathologic examination, followed by a RS analysis. **RESULTS:** Ex vivo RCM showed numerous hypo-reflective microspheres in the dermis that corresponded to rounded vacuoles at histopathologic examination, suggestive of polymethylmethacrylate (PMMA). RS showed a series of peaks at 600, 813, 970 1252, 1450, 1728, and 2951 cm^{-1} in correspondence to the microspheres, confirming the presence of PMMA. **CONCLUSION:** These results suggest that ex vivo RCM and RS are additional tools to conventional histopathologic examination to characterize soft tissue fillers in case of adverse reaction. RCM has the advantage compared with the histopathologic examination that can be extemporaneously performed on a fresh surgical specimen. RS allow a precise chemical identification of the filler.