

POSTER 21

Forensic biological sampling and their interpretation in alleged sexual assault cases – a case report

Deniz Passos^{1*}, Salomé Dias Afonso¹, Sofia Monteiro Cunha¹¹National Institute of Legal Medicine and Forensic Sciences – North Branch, Porto, Portugal.

*✉deniz.m.passos@inmlcf.mj.pt

Doi: <https://doi.org/10.51126/revsalus.v4iSup.288>

Resumo

Introduction: Cases are where biological evidence is the only finding that corroborates sexual contact, although its presence alone cannot prove sexual assault [1]. Proper selection and collection of forensic samples is a fundamental part of the forensic clinical examination. It usually depends on the type of sexual contact, victims' age and gender, and the time lapse since the sexual contact [2]. The knowledge of the range and limitations of the ancillary exams is crucial for their correct interpretation and disclosure in the forensic report [2]. **Objectives:** Case report description. **Methods:** a 47-year-old female victim of domestic abuse since 2016 was allegedly sexually assaulted (cunnilingus and digital vaginal penetration) by her ex-husband, who used physical violence and death threats against her. She denied other type of sexual contact. She reported having scratched the perpetrator. The victim sought medical attention, and was examined by the forensic physician on call five hours after the event. On the forensic examination, she had traumatic injuries on the neck and left limbs. Anogenital examination showed no acute traumatic injuries. According to the

event history provided, forensic samples were collected from the vulvar, vaginal and peri-anal regions, as well as subungual regions of both hands. Forensic genetic analysis was negative for saliva in the anogenital samples but disclosed the presence of a male genetic profile (DNA) in all the samples. **Results:** vulvar and vaginal sampling are recommended up to 48 [3] or 72 hours [4] after digital vaginal penetration. Vulvar sampling should be done up to 72 hours (even if victim showered) after cunnilingus and vaginal swabs are not recommended in this type of sexual contact alone [4]. There was no evidence of saliva in the anogenital samples but genetic testing revealed heterologous DNA in all the samples. Oral fluid constitutes the second biological evidence commonly found in sexual assault cases [1]. However, testing for saliva might return negative because of amylase degradation [1,5]. **Conclusion:** DNA analysis is always performed as epithelial cells from the perpetrator's oral cavity might be present in the samples. In this case, there was biological evidence compatible with the history provided by the victim.

Keywords: sexual assault; forensic examination; biological samples collection; DNA analysis.

Keypoints:

1. Oral fluid constitutes the second biological evidence commonly found in sexual assault cases.
2. Proper selection and collection of biological samples is a fundamental part of the forensic examination.
3. Testing for saliva may come negative and because of that, DNA analysis is always performed, as it might reveal DNA from the epithelial cells of the perpetrator's oral cavity.

References:

- [1] Magalhães T, Dinis-Oliveira RJ, Silva B, Corte-Real F, Vieira DN. Biological Evidence Management for DNA Analysis in Cases of Sexual Assault. *The Scientific World Journal*, vol. 2015. doi:10.1155/2015/365674
- [2] Magalhães T. Abuso e Negligência – Série 2. *SPECAN* (2013)
- [3] Recommendations for the collection of forensic specimens from complainants and suspects. *Faculty of Forensic & Legal Medicine* (Jan 2022).
- [4] Guideline – Evidence Based Forensic Sampling Standards. *The Royal College of Pathologists of Australasia* (Feb 2018).
- [5] T. R. De Wolff, A. J. Kal, C. E. H. Berger, B. Kokshoorn. A probabilistic approach to body fluid typing interpretation: an exploratory study on forensic saliva testing. *Law, Probability and Risk*. Volume 14, Issue 4, December 2015, p. 323–339. doi:10.1093/lpr/mgv014.