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OC-010 - (23953) - MECHANORECEPTORS AND PIEZO2 IN THE RECOVERY OF GENERAL AND EROGENOUS SENSITIVITY OF THE RECONSTRUCTED BREAST

S. Sanches-Fernandes (Portugal)[1]; A. Varanda Pereira (Portugal)[1,2]; R. Cruz (Portugal)[1,3]; A.R. Henriques (Portugal)[1]; S. Alves (Portugal)[4,5]; D. Pinto (Portugal)[4]; M.M. Novo (Portugal)[6]; J. Beirolas (Portugal)[1]; V. Baranenko (Portugal)[1]; C. Fatal (Portugal)[1]

1 - Faculdade de Medicina, Universidade de Lisboa; 2 - LMR Cirurgia Plástica, Lisboa, Portugal; 3 - Serviço de Anatomia Patológica, Hospital de Santa Maria, Centro Hospitalar Universitário Lisboa Norte, EPE, Lisboa, Portugal; 4 - Serviço de Anatomia Patológica, Hospital de São José, Unidade Local de Saúde São José; 5 - Departamento de Anatomia, Faculdade de Ciências Médicas, Universidade Nova de Lisboa; 6 - Serviço de Anatomia Patológica, Hospital Professor Doutor Fernando Fonseca, Unidade Local de Saúde de Amadora/Sintra

Santiago Sanches-Fernandes
Lisbon

Alice Varanda Pereira
Lisbon

Rafael Cruz
Lisbon

Ana Raquel Henriques
Lisbon

Sara Alves
Lisbon

Dora Pinto
Lisbon

Maria Manuela Novo
Lisbon

João Beirolas
Lisbon

Vladyslav Baranenko
Lisbon

Catarina Fatal
Lisboa

The authors declare that they received a grant from GAPIC (Gabinete de Apoio à Investigação Científica, Tecnológica e Inovação).

Breast cancer is one of the most prevalent neoplasms, often treated through breast-conserving surgery or mastectomy. Breast reconstruction frequently follows, with sensitive recovery being crucial for patient satisfaction and safety. Abdominal wall-based flaps are the gold standard for autologous reconstruction, and despite being demonstrated that flap neurotization can increase sensory recovery, full sensory re-establishment is uncommon. This study aims to compare

the neurohistological characteristics between the skin of the breast and the infraumbilical region, the donor site of these flaps, to identify areas with the highest resemblance.

One hundred hemi-bodies from abdominoplasty, mastopexy and breast reduction patients, along with formalin-preserved adult cadavers, were analysed in this cross-sectional study. Full-thickness skin biopsies have been collected from each of them, four from the infraumbilical abdomen and five from each breast quadrant and from the areola. The samples were prepared for histological evaluation through staining with hematoxylin and eosin and immunohistochemistry using antibodies specific to the neuronal marker S100 and PIEZO2 (an ion channel potentially associated with erogenous sensation). A microscopic analysis was performed to study the overall characteristics of the skin layers and to identify sensory receptors.

Initial results yielded no differences in the distribution of the cutaneous mechanoreceptors, suggesting such structures have at most a minor role in the general and erogenous sensation of these regions.

General and erogenous sensory recovery in breast reconstructions could be improved by selecting flap areas that more closely resemble breast skin, based on a complete understanding of the differences and similarities of the analysed regions.

Palavras-chave : Breast reconstruction, PIEZO2, Sensory receptors