Piezosurgery in otology: a promising device but not always the treatment of choice

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Dear Editor,

An interesting paper by Crippa et al. [1] was recently published on the European Archives of Otorhinolaryngology, concerning the favourable effects of piezoelectric surgery on the postoperative pain as compared to micro-drill in otology. Actually, even in our much more limited experience the minimal postoperative pain appears remarkable; in the same direction, the first impression about the rapidity of recovery appears noteworthy: it results in a reduced necessity of postoperative medications, due to a lesser production of granulation tissue and, consequently, to the possibility to better foresee the stabilized result with important anatomical and functional implications. On the other hand, a better control of the inflammatory processes was already reported in oral surgery [2] and appears reliable according to the observations about the bone formation subsequent to the surgical trauma reported [1]. The minimum patient discomfort derived from the employment of piezoelectric device is a further advantage in addition to its safety in ear surgery due to the capability to spare soft tissues that has been extensively documented [3]. These considerations render piezoelectric device a very promising and interesting tool, in routine tympanic and mastoid surgery as well as in selected cases when the need of respecting delicate soft tissues is prominent (e.g., particular anatomical conditions, extended processes reaching vascular and nervous structures, trans-mastoid surgery of the superior semicircular canal dehiscence). Nevertheless, some aspects, to date, need to be

perfected: first of all, the velocity of the device appears not competitive with micro-drill yet, and needs to be improved; at the moment, a possible solution could consist in making an initial gross bone demolition by means of the traditional tool and refine the remnant bone with piezoelectric device, thus achieving the advantages of the latter in terms of a less inflammatory attitude; a second aspect is represented by the irrigation, that should in our opinion permit to choose a different regulation in order to afford a better vision of the limited operatory field: this should be an easily resolvable technical detail; finally, the width of the hand-piece makes it difficult to use it in a pure transmeatal approach when the space is particularly restricted. Taken together, these limits are not absolute but suggest the need of a further development of this important tool, that anyhow already represents an enrichment in the field of instruments for otologic surgery and seems to yield a real contribution in terms of safety and comfort.

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