In Spite of Good Results with ‘Inject and Cut’, Should We Scrutinize It? – Yes, We Should!

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The prospective study by Ferrara et al. [1] on the efficacy, safety and outcome of ‘inject and cut’ EMR published in this issue can be ranked with the considerable number of clinical papers on local resection of sessile polyps and flat adenomas in the colon [2]. The study is a representative example of a carefully planned and conclusive study on the significance of EMR especially in larger lesions, which become more and more indications for ESD. On the one hand, it is shown that even conventional EMR yields good results when handled with high expertise and accuracy, on the other hand, the problems and complications increase exponentially with the size of the lesions.

At the same time, however, it becomes clear that the time has come for a more profound analysis of the causes of principal problems associated with local resection procedures which have not been adequately dealt with to date, and to solve these problems.

Therefore, not only gastroenterological and/or endoscopic aspects have to be taken into consideration, but also oncological, surgical, and, most notably, physical and technical-device-related aspects. Without any doubt, there is a need for action when addressing the following issues:

(1) To date, there is neither a logical definition nor a standardized and comparable nomenclature for the classification of lesions [3].

(2) Moreover, there is no agreement on and no international standardization of diagnostic criteria, which range from subjective macroscopic aspect, real and virtual chromoendoscopy and endomicroscopic methods up to optical biopsy and high-resolution endosonography [4].

(3) The same holds true for the definition and standardization of endoscopic techniques. Procedures such as polypectomy, EMR, ESD, piecemeal, en bloc, etc. are defined and performed in quite different ways, while new techniques such as ‘circumcise and snare’ are difficult to assess. The most decisive point is, above all, a precise and oncologic definition of the marginal level of resection in three dimensions. The following aspects have to be reassessed as a matter of principle: (a) *Submucosal injection*: The type, composition and amount of the agents used for injection are not uniform; the same holds true for the injection techniques (types of needles, needle-less, etc.). It remains to be investigated whether and to which degree injection techniques can bring about mechanical and thermal isolation and thus improve radicality and complication rate. Moreover, the definition and significance of the lifting/non-lifting sign and the correct resection plane have to be more carefully elaborated. (b) *Instrumentarium*: There is an immediate necessity to optimize

the mechanical and high-frequency surgical characteristics of snares, needles, knives and other instruments, and to take into consideration novel improved instruments which are particularly suited for large lesions [5]. (c) *High-frequency surgery*: In this field, assured new findings [6] are largely ignored and are not incorporated into clinical practice. This applies to construction, features and settings of high-frequency generators as well as to the standardization of the relevant parameters, which is both urgently necessary and definitely possible.

- (4) An oncologically adequate resection (sm₁, sm₂, sm₃, 500 µm, 1,000 µm, full-thickness, lymph node?) has to be defined and, accordingly, be controllable during

the procedure (see 3a), since increased size of the lesion is associated with an overproportionately increased malignancy rate. The representation of the histological processing (necessary number of resection margins to be examined and histological sections) remains completely unresolved.

Study results will not be reproducible and different ablation techniques will not be comparable as long as these matters have not been adequately dealt with [7]. Future progress in the area of resection techniques in the entire gastrointestinal tract – e.g. the possible expansion of EMR techniques in the direction of in toto resection of large lesions – essentially depends on a comprehensive analysis of these problems and their logical solutions.

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