Reappraisal of Transurethral Resection in Classic Interstitial Cystitis

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The idea of removing Hunner lesions to improve symptoms is not new. Guy Hunner himself found that resection of lesions was one means to obtain symptom remission, although mostly short-lived so he gave up this kind of treatment. TUR was on trial more recently [1, 2] but this kind of surgery was not accepted when we started our first series. Initially, when applying TUR our goals were twofold: to obtain sufficient tissue to permit a reliable and sufficiently detailed histopathological diagnosis, and also to establish whether careful resection of lesions actually could help patients. At this stage there was some skepticism, with questions like: if you have an ulcer and by an operation create an even bigger ulcer, how is it possible that such a measure would make any improvement? There are reasonable explanations, though [3, 4]: peripheral denervation with removal of inflamed nerve endings, reduction of aggregates of potent inflammatory mediators and elimination of epithelial mast cell recruiting factors as well as epithelial and subepithelial mast cells might cause disease remission. In this context it is worth noting that perineural localization of inflammatory cells is a very typical feature in classic interstitial cystitis [5]. At the initial stage there was also much uncertainty about what Hunner lesions really look like [6] and certainly about their prevalence. Prevalence was thought to be in the range of 5–10% of subjects with bladder pain while in our series it is around 50% [7, 8]. Recent reports indicate that the use of cystoscopy and bladder distension as a routine in BPS/IC—or lack of such routine—is decisive for the number of patients with Hunner lesion you detect or miss. In centers where the traditional way of diagnostics was not abandoned prevalence similar to ours has been reported. Fortunately, the role of cystoscopy is now increasingly appreciated worldwide [9, 10].

The electrical settings were on the lowest intensity possible, still effective for resection, and there was only pin-point coagulation of bleeding vessels with no coagulation over large surfaces, with the intention to minimize development of scar tissue that could promote bladder contracture [3]. That makes the operation technically challenging and now and then also time-consuming since, based on experience, it is important to identify all lesions and remove all involved areas including the peripheral edema zone; completeness is crucial for the result. That is a limitation of this technique since it takes a very experienced surgeon to perform mostly multiple, wide resections over the entire bladder area, typically including the dome, on thin-walled bladders. Simple coagulation of lesions is much easier but carries its own downside, since radical wide coagulation in an organ prone to contraction seems risky. It is reasonable to

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believe that the result of TUR would be better and more durable, with less risk of inducing bladder contracture, although admittedly a reasoning of probability since at this stage there are no comparative studies. It is also worth noting that in a recent large series coagulation did not result in bladder volume decrease [11]. When comparing various reports duration of symptom relief seems to be longer following TUR.

The hitherto largest series [4] confirm the remarkable efficacy of this treatment, 92 of 103 patients having remission of symptoms after TUR, and long-term relief. Ablative treatment has stood the test of time and is today standard treatment with no need of justification as first line treatment of classic interstitial cystitis (ESSIC type 3C) [12].

29.1 What Did We Get Right?

The pioneering initiative by the NIH/NIDDK to establish scientific criteria for IC, presented in the book of 1990, drew attention to IC and in the following years a large number of articles were published. It was gradually realized, however, that chronic pelvic pain encompasses not only a large group of individuals but also a number of conditions lacking consensus definition criteria; very important notions. At this stage there was a conflict between the expansion of the target group and the lack of scientific clarity and transparency when grouping together a variety of conditions and syndromes with similar symptoms as their principal common feature. We began to realize that IC, for example, does not only represent one disease, but rather various subtypes or even various diseases. All treatments cannot be expected to work in all subjects. Adequate phenotyping is the key to success.

29.2 What Seminal Publications Changed Our Thinking?

Our contribution was to point out and further illustrate the multiple characteristics that differentiate classic Hunner IC from other phenotypes of BPS/IC, in terms of age at first appearance of symptoms, endoscopic presentation, histologic features including mast cell expression, response to various treatments, and neurobiological findings [5, 7, 13–16]. That also includes notions on prevalence [7, 8].

A real turning point came in 2003 when Tomohiro Ueda organized a world meeting on IC in Kyoto. The amazing differences between centers, countries and continents were exposed. The first meeting of ESSIC took place in Copenhagen somewhat later that year and resulted in epoch-making publications [12, 17]. Initiatives by large organizations to establish guidelines followed and has had a great impact, including the AUA and EAU guidelines, among many other things including the notion that chronic pain might be a disease process in its own right [18–21].

29.3 Where Were We Off Base?

Pioneering attempts of ablation [1, 2] were depreciated or forgotten, much depending on the misconception that classic interstitial cystitis with Hunner lesions was an uncommon syndrome with unclear differences to the large population of patients suffering from bladder pain.

29.4 Where Do We Go from Here?

There are arguments for and against all available methods as to possible risks/advantages, like possible induction of bladder wall scarring, duration of remission after treatment and the prevalence of side effects. Comparable studies with long-range observation would be of interest. Recent interest in steroid injection of Hunner lesions can be traced to Schulte and Reynolds in 1956. Risk/benefit ratios of resection, fulguration, and steroid injection to treat Hunner disease remain to be determined [22, 23].

In the scientific community, treatment methods require high scoring in level of evidence to earn high grades of recommendation. Such grading depends on the outcome of RCTs. No such studies on local ablation in BPS/IC have as yet been accomplished but are eagerly awaited.

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