



The comeback of hemorrhoidal sclerotherapy?

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“There is much to be learned from our surgical forefathers and the traditions that they engendered” (Harold Ellis) [1].

Hemorrhoidal sclerotherapy is an old technique. Indeed, it was reportedly developed by an English surgeon, John Morgan (1820–1891), who practiced at King’s College London [2]. In France, its invention is attributed to another surgeon, Antoine Desgranges (1819–1896), who practiced at the Hôtel-Dieu hospital in Lyons. Other names have also been put forward, but, whoever its true inventor, everyone agrees that it was the first instrumental treatment to be proposed for the treatment of hemorrhoids. It involves injecting a sclerosing product into the suprahemorrhoidal submucosa, generally transanally, with the aid of an anoscope. John Morgan used iron persulfate, but other liquid chemicals, such as hypertonic saline solution, glycerol, quinine and urea hydrochloride, phenol, and polidocanol, have since been used. The aim is to achieve mucosal and submucosal fibrosis and vascular obliteration, thereby stopping hemorrhoidal bleeding, or even prolapse in cases that are not too severe. This procedure has the advantages of simplicity, such that it can be performed during consultations, good tolerance in the vast majority of cases, satisfactory short-term efficacy provided that it is used for appropriate indications, and a low cost [3].

However, this instrumental technique has fallen out of favor over time. This can be explained by the occurrence of severe complications, which are certainly rare but may occasionally be lethal (which is unacceptable for such a condition) due to sepsis (necrotizing fasciitis, septicemia) [4]. It may also be explained by the high medium-term recurrence rate of about 70 to 80% beyond four years of follow-up [5]. Finally, the declining use of this technique may also be explained by the greater efficacy of rubber band ligation, another instrumental technique easily performed in

consultation [6], and the growing popularity of infrared photocoagulation, which is thought to be as effective as sclerotherapy but easier to perform [7]. Moreover, recent European guidelines for the therapeutic management of hemorrhoids placed infrared photocoagulation ahead of sclerotherapy for the treatment of grade I or II hemorrhoidal disease not responding to conservative treatment [8].

That said, there has clearly recently been a renewal of interest in sclerotherapy. The revival of this technique has been based on the use of a product based on aluminum and potassium phosphates and tannic acid (ALTA), which was developed in China and is widely used in Japan [9]. It is injected under local or caudal epidural anesthesia and also appears to be effective for treating grade III hemorrhoidal disease, or even grade IV disease in certain cases [10]. It may be more effective than phenol [11] and as effective as surgical excision [12]. However, this product is currently used only in Asia. In Europe, renewed interest in this technique has centered on the use of a foam form of polidocanol. Indeed, this foam appears to be more effective because it maximizes the sclerotic effect by increasing the contact surface area with the endothelium [13]. A randomized controlled trial showed that this foam was more effective than polidocanol liquid and just as safe [14]. A recent randomized controlled trial even showed the injection of this foam to be more effective than rubber band ligation [15]. The renewed interest in this technique is well illustrated by the concomitant publication of two articles on the evaluation of polidocanol foam in this issue of Techniques in Coloproctology [16, 17].

The first article concerns an Italian multicenter study on 183 patients (60.7% men, mean age 51.3 ± 13.5 years) with grade II hemorrhoidal disease. Bleeding was stopped in a single session in 68.3% of patients, and it recurred during the 12 months of follow-up in 12% of these patients. A second, or even third injection was performed, ultimately resulting in efficacy in 95.6% of patients. Minimal pain occurred in 12.6% of patients and external hemorrhoidal thrombosis occurred in 1.6%. No severe complications were reported [16].

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The second article concerns a Portuguese multicenter study on 228 patients (50% men, mean age 59.4 ± 15.9 years) with grade I to III hemorrhoidal disease, 32% of whom had innate (Willebrand disease, hemophilia, thrombocytopenia, hyperfibrinolysis syndrome) or acquired (anti-aggregating or anticoagulant treatments) bleeding disorders. The treatment was considered effective, over one to three sessions, in 93.4% of patients. The mean number of sessions required was significantly higher for patients with bleeding disorders (1.68 ± 0.86 versus 1.43 ± 0.65 , $p = 0.013$). Minimal pain occurred in 6.1% of patients and minimal bleeding was reported for 4.4%. However, one patient experienced a hemorrhage necessitating blood transfusion. Bleeding was no more frequent in patients with hemostasis or coagulation disorders than in those without such disorders. Finally, hemorrhoidal disease recurred in 9.4% of patients during the 12 month follow-up period. Again, this rate was no higher for patients with bleeding disorders [17].

These two articles on the injection of polidocanol foam are interesting because they are multicenter studies on a large number of patients, and the sex ratio (50 to 60% men) and age (mean of 51–59 years) of these patients with grade I to III hemorrhoidal disease were similar in the two studies. In addition, the studies were scientifically rigorous, as the evaluation of treatment efficacy was based on dedicated scores. This product has thus proved to be effective, especially against bleeding, in 93 to 95% of patients, after one to three sessions at one-month intervals, with a low rate of complications, most of which were minor, and an equally low recurrence rate of approximately 9 to 12% in the year following treatment. The Portuguese study also showed that it may be possible to use this treatment on patients with bleeding disorders. This is particularly interesting given the increasing frequency of this situation in clinical practice, particularly in light of cardiology practices, and it considerably complicates our task when patients complain of hemorrhoidal bleeding. We, thus, now have a treatment that appears to be usable without major risk in this situation.

Of course, other randomized controlled studies, with large numbers of participants and a longer follow-up, will be required to clarify the place of this “new sclerotherapy” in the therapeutic algorithm. It will also be necessary to standardize the procedure (needle diameter, injection site, percent polidocanol, and amount of foam). That said, this approach is entirely consistent with the current trend towards the “minimally invasive” management of hemorrhoidal disease. A careful reading of these two articles is, therefore, essential, particularly as this is unlikely to be the last we hear of polidocanol foam. Indeed, some are already talking about “sclerobanding”, a technique combining sclerotherapy with this foam and rubber-band ligation [18]. A fascinating story, to be continued.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This article does not contain results of studies with human participants or animals performed by the authors.

Informed consent For this type of study, no informed consent is required.

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