

Portuguese Society of Gastroenterology Consensus on the Diagnosis and Management of Hemorrhoidal Disease

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Keywords

Hemorrhoidal disease · Consensus · Portugal

Abstract

Hemorrhoidal disease (HD) is a frequent health problem with considerable repercussions on patients' quality of life. However, much of the clinical practice related to HD is based on knowledge without scientific evidence and supported largely by empirical experience of the physician who deals with this pathology. As in other countries, the goal of this consensus is to establish statements supported by solid scientific evidence and whose purpose will be to standardize and guide the diagnosis and management of HD both in the general population and in some particular groups of patients.

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Consenso da Sociedade Portuguesa de Gastreenterologia sobre o Diagnóstico e Tratamento da Doença Hemorroidária

Palavras Chave

Doença Hemorroidária · Consenso · Portugal

Resumo

A doença hemorroidária é uma patologia prevalente com repercussões consideráveis na qualidade de vida dos doentes. No entanto, muita da prática clínica relacionada com a doença hemorroidária é baseada em conhecimentos sem evidência científica e apoiada largamente por uma experiência empírica por parte do médico que lida com esta patologia. À semelhança do que tem sido feito noutros países, o objetivo deste consenso foi estabelecer

statements suportados por evidência científica sólida e cuja finalidade será o de uniformizar e orientar o diagnóstico e tratamento da doença hemorroidária quer na população em geral quer em grupos particulares de doentes.

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Introduction

Hemorrhoidal disease (HD) is a prevalent condition among industrialized societies. It is one of the leading causes for a visit to a coloproctology's office. Given the large number of symptoms and associated patient distress, it is important that this disease is correctly diagnosed and treated.

Several guidelines and consensus have been published in recent years, addressing this issue [1, 2]. Nevertheless, a national guideline has not been published to date. Therefore, this workgroup was developed to elaborate statements that should aid in clinical practice.

Given that a lot of information regarding this field is either outdated or without published evidence, an effort was made to select a group of participants considered as experts in HD.

Prior to this meeting, an invitation was sent to 12 prominent gastroenterologists with interest in proctology asking for the elaboration of statements addressing the different subthemes included in this document and, through research in scientific literature and/or clinical experience, the statements were revised and classified according to the quality of evidence [3] (online suppl. Appendix 1; for all online suppl. material, see www.karger.com/doi/10.1159/000502260).

On the consensus meeting, each statement was voted (anonymously, through an electronic application) with the options A (Agree) and B (Disagree). A minimum of 10 votes (80%) on the option A was necessary to obtain consensus. If the statement did not reach 10 votes, it was either changed until a consensus was obtained or excluded.

The meeting was held in Curia, Portugal, on February 24, 2019 with the scientific support of SPG – Sociedade Portuguesa de Gastrenterologia.

A summary of the consensus is provided in online supplementary Appendix 2 and an algorithm for the management of patients with suspected HD in Figure 1.

Physiopathology of HD

The functional anal canal is approximately 4 cm in length (from the anal verge to distal rectum) [4–7]. The

dentate line, approximately 2 cm above the anal verge, is a major anatomic point when considering the physiology and physiopathology of HD since, distal to the dentate line, the anal canal is lined with squamous epithelium covering the external hemorrhoidal plexus that is innervated by the somatic nervous system and highly sensitive to pain [4–7]. Internal hemorrhoids are located proximal to the dentate line, where the anal canal is lined with columnar epithelium as in the rectum. This tissue lacks sensitivity due to its innervation by the sympathetic and parasympathetic nervous systems, primarily distinguishing only fullness and pressure [4–7]. There are typically 3 major anal cushions above the dentate line (right anterior, right posterior, and left lateral) often with some minor accessory cushions between them [8].

The pathogenesis of HD is most likely multifactorial including deterioration of anchoring connective tissue of anal cushions, downward displacement or prolapse of the hemorrhoidal tissue [9], hyperperfusion state and neovascularization with abnormal distention of the arteriovenous anastomoses and veins of the internal hemorrhoidal venous plexuses [10], overexpression of inflammatory mediators [11], and increased resting anal pressure [12, 13].

Chronic constipation is usually considered to contribute to the occurrence of HD by causing an increased shearing force on the anal cushions and decreased venous return leading to degeneration of the supportive tissue in the anal canal and distal displacement of anal cushions [14–16]. Although this concept has been recently challenged [17], it remains one of the most consistently accepted risk factor for HD. Other conditions associated with increased intra-abdominal pressure, such as pregnancy [18], prolonged sitting, or heavy lifting are believed to cause HD as a result of compromised venous drainage of hemorrhoid plexus [19]. Advancing age, obesity, and sedentarism have also been reported to contribute to symptoms onset [4, 20–23]. Chronic diarrhea is also a risk factor for developing HD due to frequent stool passage causing local trauma and weakening of the anal canal lining [13, 24]. Data are inconsistent regarding the presumed correlation between HD and habits such as smoking, spicy foods, or alcohol consumption [7, 25]. There is currently no consistent scientific evidence regarding any genetic predisposition to HD [26].

Epidemiology

HD is commonly diagnosed in clinical practice [26]. The reported prevalence in adults is highly variable, from 4.4% in self-reporting surveys [27] to 38.9% in screening

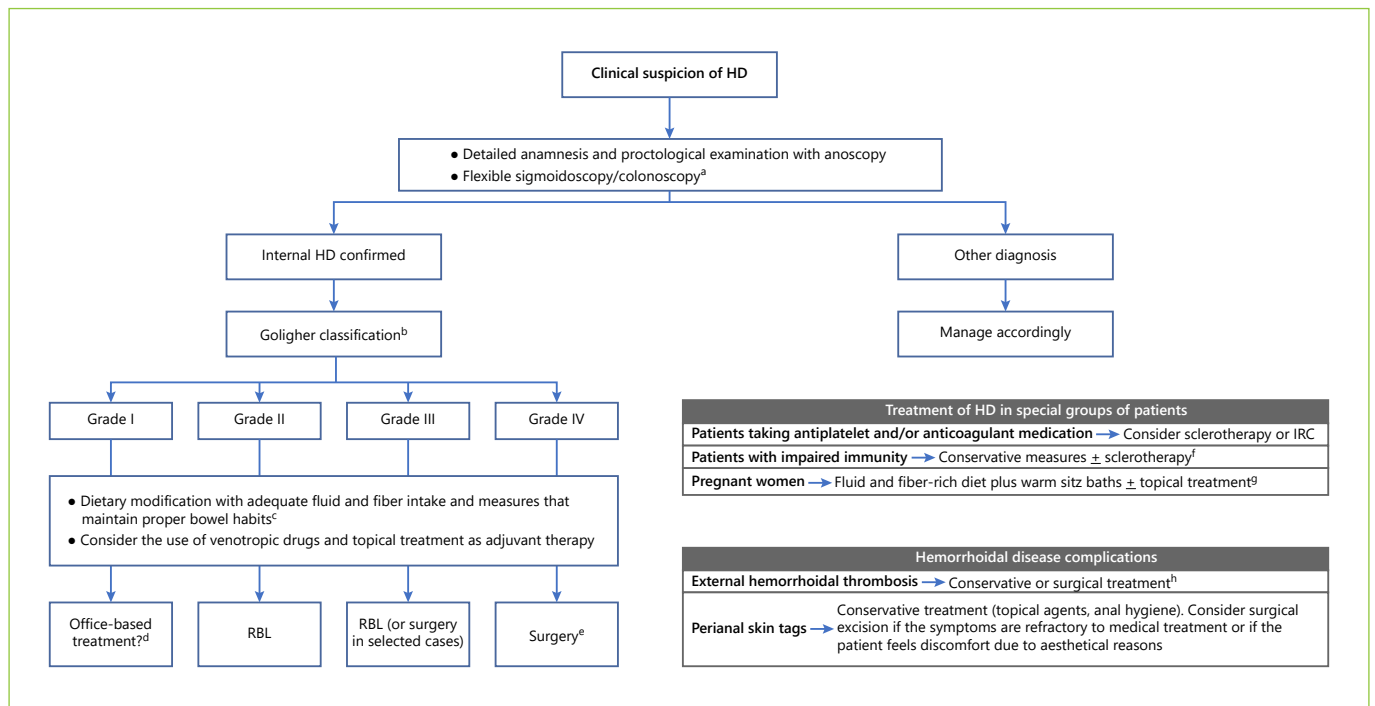


Fig. 1. Algorithm for the management of patients with suspected hemorrhoidal disease. ^a Colonoscopy is indicated in patients over the age of 50 years (earlier if there is family history of CRC or another condition predisposing to CRC) or if any alarm symptom is present; ^b consider using a symptom-based score, such as Sodergren score, to evaluate the severity of the HD; ^c advise avoiding excessive straining and limit the time at defecation; ^d medical management is enough for most patients. Some cases may require office-based treatment. RBL may be difficult to perform in such small vascular cushions; ^e the adopted type of surgical technique

will depend on local expertise and should be a joint decision between the doctor and the patient; ^f studies have suggested a potential benefit of antibiotic prophylaxis in these patients owing to the risk of bacteremia after sclerotherapy; ^g there are no trials evaluating office-based therapies in pregnant women; therefore, they should probably be avoided during this period; ^h surgical treatment is effective in the prevention of recurrence and symptom control when applied during the first 48–72 h after symptoms onset. HD, hemorrhoidal disease; RBL, rubber band ligation; IRC, infrared coagulation.

colonoscopy setting [23]. HD affects both sexes equally, with a peak prevalence occurring between the ages of 45–65 years, being unusual before the third decade [27].

Clinical Evaluation and Diagnostic Tests

Statement 1

A detailed history and proctological examination are mandatory in patients with suspicion of symptomatic HD (*high-quality evidence*).

Agreement: 100%.

Statement 2

Anoscopy is the gold standard for the evaluation of the anus if HD is suspected (*moderate-quality evidence*).

Agreement: 100%.

Statement 3

Flexible sigmoidoscopy should be performed in patients with rectal bleeding. Colonoscopy is indicated in patients over the age of 50 years (earlier if there is family history of colorectal cancer [CRC] or another condition predisposing to CRC) or if any alarm symptom is present (*moderate-quality evidence*).

Agreement: 100%.

Rationale

Internal HD is associated with painless bleeding (usually related to bowel movement), mucus discharge, soiling, and pruritus [5].

When patients complain of a significant anal pain, other diagnosis must be considered, such as anal fissure or inflammatory bowel disease (IBD) [5, 27].

Patient history must include information regarding the presence of alarm symptoms, whether constipation or diarrhea coexist and relationship between symptoms and defecation. Family history must also be included with a detailed cancer history to stratify CRC risk and history of IBD.

A proctological examination should be performed allowing the evaluation of the anal verge and its structures excluding a distal rectal mass or an anorectal abscess [8, 28]. Moreover, anoscopy seems to be the most accurate method to diagnose HD and can be performed in the office setting with no prior preparation [28, 29].

Patients over the age of 50 years or with alarm symptoms/signs (anemia, iron deficiency, abdominal pain, diarrhea, weight loss, or fever) or with risk factors for CRC/IBD should undergo colonoscopy. It also should be highlighted that HD alone does not affect the prevalence of positive occult blood tests so, in case of a positive result, it should not be attributed to HD until a colonoscopy is performed [30–32].

Flexible sigmoidoscopy should be considered in patients who do not meet any of the criteria described above.

HD Grading

Statement 4

Although never validated, the most widely used score is the Goligher classification. Other classification systems were proposed, however, never gained widespread acceptance (*low-quality evidence*).

Agreement: 100%.

Statement 5

A symptom-based score, such as Sodergren score, can be used to evaluate the severity of the HD (*moderate-quality evidence*).

Agreement: 83%.

Rationale

No unified tool exists to classify the severity of HD [2, 33]. The most widely used is the Goligher classification [34]. It categorizes only internal hemorrhoids and defines 4 grades of HD according to the most prolapsed pile. However, there is a frequent disparity between worsening symptoms and Goligher grade increment.

New classification systems for HD were proposed over the past 3 decades [35–38]. Some authors categorized HD in bleeding, prolapsing, thrombotic, and mixed HD [37]. This classification, based on histological evaluation of the anal canal in different stages of life, shed new light on the

pathophysiology of HD. Other authors, using a retroflexed colonoscope, proposed a classification based on a detailed anatomical description [38]. Their algorithm included the degree of mucosal elevation of the rectal columns, changes in color, and the existence and size of hypertrophied anal papillae evaluated by colonoscopy. The Sodergren score [39] was developed and validated in 2015 using a simple symptom-based scoring system to quantify the severity of HD. In this study, 50 patients were scored with rectal bleeding according to the severity and frequency of pruritus, pain at rest, pain at defecation, and prolapse.

The single pile hemorrhoid classification (2015) is a new tool that considers the number of pathological piles, the characteristics of each internal pile (incorporating here the Goligher classification), and the characteristics of each external pile [33].

Although interesting from a descriptive point of view, these new classification systems are not widely used, perhaps because of their complexity. Probably no scoring system will ever be completely satisfactory.

Medical Management of HD

Diet, Transit Modifiers, and Laxatives

Statement 6

Dietary fiber (in food or as supplement) decrease bleeding and the recurrence of symptoms. The use of fiber is recommended in the treatment of acute episodes and to prevent recurrence (*high-quality evidence*).

Agreement: 92%.

Statement 7

Patients with HD benefit from measures that maintain proper bowel habits such as avoiding straining and limiting the time at defecation (*moderate-quality evidence*).

Agreement: 100%.

Rationale

As discussed above, HD has been considered to be caused by a low-fiber diet and constipation [40, 41]. Medical therapy involves dietary modification with adequate fluid and fiber intake, along with avoiding straining as well as diarrhea [42]. Data on fiber have been assessed in a systematic review and meta-analysis of 7 trials, which included 378 patients randomized in 2 groups: fiber group versus nonfiber group [43]. The results suggested that fiber has an apparent beneficial effect. Alongside with dietary supplementation, patients benefit from mea-

tures that maintain proper bowel habits such as avoiding straining during passing motions, limiting the time at defecation, and once a day defecation [44]. There is lack of supporting evidence for the efficacy of other laxatives in the treatment of HD.

Venotropic Drugs and Topical Treatment

Statement 8

Venotropic drugs seem to be effective in the treatment of symptomatic HD. There is a lack of evidence about optimal dosage, duration of treatment, or superiority of a specific drug (*moderate-quality evidence*).

Agreement: 100%.

Statement 9

Topical treatment may be useful in the short-term treatment of symptoms of HD but, so far, its use is not supported by well-designed, robust studies (*moderate-quality evidence*).

Agreement: 92%.

Rationale

The main goal of pharmacological treatment is to relieve acute symptoms of HD rather than reverting its chronic structural changes. Venotropics are a heterogeneous class of drugs used to treat chronic venous insufficiency [45] that have also been proposed for the treatment of HD [46]. Most of these drugs are derived from natural products extracted from plants, predominantly bioflavonoids. The precise mechanism of action has not been well established. There is some evidence in the literature that this class of drugs plays a role in the control of symptoms from HD [46]. A meta-analysis of 14 randomized controlled trials involving 1,514 patients and comparing various flavonoids formulations (diosmin + hesperidin micronized purified flavonoid fraction, diosmin, and rutosides) with placebo or no therapy reported an overall significant symptomatic improvement, namely, a beneficial effect on bleeding, pain, and itching. Moreover, the few studies evaluating symptom recurrence also showed a favorable effect [47]. A more recent Cochrane review expanded this evaluation to 24 trials involving 2,334 patients comparing venotropics (mostly flavonoids with some studies also evaluating calcium dobesilate) with a control intervention or no treatment and found relatively similar favorable results in overall improvement and in each symptomatic parameter [48]. No serious adverse events were reported with bioflavonoids besides mild gastrointestinal disturbances [47, 48]; however, agranulocytosis has been described with calcium dobesilate [49].

Despite these encouraging results, both the Cochrane review and the meta-analysis emphasize the limitations in methodological quality and the heterogeneity of data among trials, leaving uncertainty about the real efficacy of venotropics in the treatment of symptomatic HD and advising that larger and better designed trials are necessary to achieve high-quality evidence.

Drugs available for topical application (mostly ointments or creams and suppositories) may contain analgesics/anesthetics (e.g., cinchocaine), steroids (e.g., hydrocortisone), venotropics (e.g., ruscogenin), spasmolytics (e.g., trimebutin), vasoconstrictors (e.g., phenylephrine), antiseptics, and emollients, either isolated or in association. The mechanism of action of some of these drugs has not been clarified. Evidence of efficacy has not been adequately demonstrated as most studies involve few patients and centers, have not been adequately designed or are outdated, and have not been replicated. Even though some studies involved significant number of patients, such as the review on policresulen plus cinchocaine reporting beneficial effect in 1,904 (83.2%) out of 2,287 patients [50] or the review on several studies of tribenoside plus lidocaine [51], strong evidence cannot be drawn from the studies designed to provide a clear recommendation. Caution must be taken with prolonged or iterative use of topical medication because allergic reactions or sensitization may occur [52–54].

A few more recent and so far isolated reports of randomized clinical trials showed benefit from a gel containing hyaluronic acid with tea tree oil and methyl-sulfonylmethane in a single-center study with a small number of patients [55] and from an intra-anal ointment with ifersanerin, a selective serotonin receptor antagonist, evaluated in a multicentric study [56].

A Cochrane review on traditional Chinese medicine herbs found no evidence to support its use in HD [57].

Office-Based Treatment of HD

Rubber Band Ligation

Statement 10

Rubber band ligation (RBL) is recommended as first-line treatment for internal grade II HD and for selected patients with grade III that do not respond to medical treatment. This technique is more effective and equally safe compared to sclerotherapy (liquid sclerosants) and infrared coagulation (IRC; *high-quality evidence*).

Agreement: 92%.

Statement 11

For internal grade II HD, RBL has similar efficacy but fewer side effects than excision hemorrhoidectomy (*moderate-quality evidence*).

Agreement: 100%.

Rationale

Interventional management of HD can be divided in office-based or surgical procedures [58, 59].

The various nonsurgical treatments can be performed as outpatient procedures without anesthesia [59].

RBL involves placing rubber bands around hemorrhoids until they eventually fall off. It is a quick, simple, inexpensive procedure [59]. The elastic bands are applied on an insensitive area just above the dentate line to strangulate the piles leaving an area where inflammation fixes the mucosa to the submucosa preventing subsequent development of new hemorrhoidal tissue and is the most widely used nonsurgical treatment for patients with grade II or III HD [60]. Data regarding efficacy of RBL in grades I and IV are occasionally reported. The overall subjective improvement with RBL ranges from 73 to 84% [60]. A meta-analysis of 18 randomized trials comparing various treatment methods for grades I to III HD concluded that RBL was more effective than sclerotherapy and that patients who underwent ligation were less likely to need subsequent therapy [61]. Also, compared to excision hemorrhoidectomy, RBL has similar results but without the side effects of excision hemorrhoidectomy for the treatment of grade II HD [59]. Although RBL is more painful than other outpatient modalities, complication rates are similar [61]. Postoperative pain ranges from 8 to 80% in different randomized controlled trials (RCT) [60]. Postoperative bleeding ranges from 1.20 to 36% in the majority of RCT, but there is one trial that reported 50% [60, 62–64]. Other complications include vagal symptoms, chronic ulcers, priapism, difficulty in urination, hemorrhoidal thrombosis, and, although extremely uncommon, severe pelvic sepsis [58]. Recurrences of bleeding and prolapse at follow-up occur, respectively, in 10–18% and in 2.2% of patients; 1 RCT reported higher percentages (46 and 34%, respectively) [60].

Sclerotherapy

Statement 12

Sclerotherapy with liquid sclerosants is safe but poorly effective and therefore should be used only for grade I internal HD (*high-quality evidence*). Since postprocedural bleeding is uncommon, it should be considered for pa-

tients who have higher bleeding risk (*moderate-quality evidence*).

Agreement: 92%.

Statement 13

The use of other sclerosing techniques, such as polidocanol foam and aluminum sulfate and tannic acid (ALTA), seems to be safe and effective even in patients under anticoagulation and/or antiplatelet therapy. The efficacy and safety compared to other office-based procedures are yet to be defined (*low-quality evidence*).

Agreement: 100%.

Rationale

Internal HD can be fulgurated or sclerosed through injection [65]. As with RBL, sclerotherapy does not require anesthesia (local or intravenous). The procedure is performed through an anoscope, being the sclerosant injected into the hemorrhoidal cushions above the dentate line [7, 60].

Sclerotherapy (with liquid sclerosants) is considered safe but poorly effective and, therefore, used only for small hemorrhoids. Postprocedural bleeding is uncommon and so should be considered for patients who have an elevated bleeding risk, such as those receiving anticoagulants.

The interpretation of published studies comparing sclerotherapy with elastic banding and hemorrhoidectomy is not always easy. Sclerosants used vary, as does the dose, injection method, puncture site, and the type of needle used. On the other hand, subjective evaluation of prolapse reduction, intermittent blood loss, and recurrence of HD make the analysis difficult.

Among the various sclerosing agents described, 2 have stood out in recent years for their effectiveness and safety: ALTA and polidocanol foam. An RCT with ALTA reported resolution of bleeding in 69–88% of grade I HD [66], while 3 case series showed an improvement of bleeding in 100% of grades II and III HD [65, 67, 68]. More than 90% of prolapses resolution in grade II HD is reported in an RCT and 2 case series [66, 68, 69]. Good results are shown also for grade III, but data are reported only by case series. A prospective study showed an overall prolapse improvement in 100% of patients [70], while Yano reported 52% of improvement of prolapse in III degree [71]. Miyamoto et al. [69] and Tokunaga [72] in their case series showed an improvement for grade IV, too.

In Portugal, liquid polidocanol 1 or 2% is commonly injected through the anoscope in low doses. However,

polidocanol foam seems to be a better sclerosant than the liquid form [73, 74].

In a recently published Portuguese study, 2,000 patients were treated with polidocanol foam (without control group). The authors concluded that this therapy was very successful, with 98% of the patients reporting satisfaction regarding bleeding control and prolapse reduction. Complications were rare and usually minor [75].

Complications of sclerotherapy are uncommon, with the most frequent being minor discomfort, tenesmus, or bleeding with the injection. The major complications are most often iatrogenic, owing to misplaced injections into nonhemorrhoidal tissues or with systemic injections into the vasculature. Urinary retention, rectourethral fistulas, rectovaginal fistulas, rectal perforations, infections, necrotizing fasciitis, sepsis, and death are rare complications [76–78].

Other Techniques: IRC, Cryotherapy, Electrocoagulation, and Heater Probe

Statement 14

IRC is an effective procedure in the treatment of grades I and II HD. When compared to RBL, IRC shows less postoperative pain but higher probability of recurrence (*high-quality evidence*).

Agreement: 100%.

Statement 15

Other office-based procedures have shown inconsistent results, namely, electrotherapy (*moderate-quality evidence*), cryotherapy, heater probe, and argon plasma coagulation (*high-quality evidence*). Their use is not supported by recent evidence.

Agreement: 92%.

Rationale

In addition to the techniques described earlier, a variety of procedures can be used for HD: IRC, bipolar diathermy (BD), direct current electrotherapy (DCE), cryotherapy, and heater probe. For these therapeutic techniques, there are not enough controlled studies, particularly recent, and many authors consider that they should be regarded as obsolete [79].

IRC focuses infrared radiation from a tungsten-halogen lamp via a polymer probe tip, resulting in protein necrosis within the hemorrhoid. One RCT evaluated the efficacy of IRC, flavonoids, and combination therapy for 5 days: the percentages of improvement of IRC for different grades of HD were 78, 51, and 22% for grades I, II, and

III HD, respectively, and efficacy increased when the technique was associated with flavonoids; interestingly, the efficacy of IRC alone was similar to 5 days of flavonoids alone [80]. RCTs comparing IRC with RBL [81–84] showed that both were well-accepted and highly efficacious methods for the treatment of internal hemorrhoids; in general, RBL was more effective in controlling symptoms and needs fewer additional treatments but is associated with more pain than IRC.

BD is a studied treatment for grades I, II, and III HD. Success rates range from 88 to 100% in randomized trials but do not eliminate prolapsing tissue [31]. About 12% of patients experience pain, bleeding, fissure, or spasm of the internal sphincter [31]. Compared with IRC, BD has some practical advantages but results are similar [85]. Comparing BD with heater probe efficacy was the same, but pain was more common and the time to symptom relief was shorter with heater probe [86].

DCE has no advantage compared with standard medical therapy in an RCT [87] and a limited control of prolapse in higher grade HD [88]. In another RTC, although more painful than sclerotherapy, DCE is a safe and a highly satisfactory procedure for treating early HD [89]. However, DCE has not been widely accepted because of the lengthy treatment time and similar efficacy compared with BD [90–92], RBL [87], and sclerotherapy [88].

As for cryotherapy, the cryoprobe of liquid nitrogen is applied to the hemorrhoid for about 3 min to produce liquefaction of frozen tissue, over the ensuing 2–3 weeks. Despite initial enthusiasm, this procedure is now only rarely used because of prolonged pain, foul-smelling discharge, and a greater need for additional therapy than closed hemorrhoidectomy [31].

Treatment of HD in Special Groups of Patients

Statement 16

In patients taking antiplatelet and/or anticoagulant medication, the risk of bleeding is increased after RBL (*low-quality evidence*). In these patients, sclerotherapy appears to be safe (*moderate-quality evidence*).

Agreement: 100%.

Statement 17

Instrumental interventions should be used with caution in patients with impaired immunity. Antibiotic prophylaxis might be beneficial after office-based procedures (*low-quality evidence*).

Agreement: 100%.

Statement 18

The first-line treatment of symptomatic HD during pregnancy should include a fluid and fiber-rich diet (*moderate-quality evidence*). Warm sitz baths are also helpful (*high-quality evidence*).

Agreement: 100%.

Statement 19

In pregnant women, rutosides (*high-quality evidence*), combination of tribenoside and lidocaine (*moderate-quality evidence*), and hydrocortisone creams (*low-quality evidence*) seem effective in reducing symptoms of HD. Although preliminary data suggest no increased risk during pregnancy, these therapies should be avoided during the first trimester (*low-quality evidence*).

Agreement: 92%.

Rationale

Antiplatelet and anticoagulant medication appear to increase the risk of bleeding after RBL with published reports of massive and life-threatening hemorrhage [93–96]. In a large retrospective study of 805 patients undergoing RBL, higher bleeding rates were encountered in patients on warfarin (25%) and acetylsalicylic acid (7.5%) compared with patients not taking these medications (2.9%) [64]. It is believed that the highest risk of bleeding occurs between 10 and 14 days after the procedure [62, 93, 94]. This has led many authors to recommend patients to stop their medication 7–10 days before banding, followed by a further 7–10 days thereafter [93, 97]. In a large retrospective observational study including 364 patients undergoing RBL, withholding antiplatelet medication 7–10 days after the procedure appeared to equalize the risk of bleeding to that of patients not taking antithrombotic medications [97].

In a case-matched series of 37 patients receiving sclerotherapy for symptomatic HD while on antiplatelet and/or anticoagulant therapy, there was no difference in post-procedure bleeding rates [65].

In a prospective study, 120 patients with liver cirrhosis without coagulation disorders were randomized to receive RBL or sclerotherapy for the treatment of HD. Both therapies proved to be safe and effective [98]. In another prospective randomized trial of 26 patients with cirrhosis and HD, resolution of symptoms and complications were similar between patients receiving RBL and stapled hemorrhoidopexy [99]. Even though studies seem to suggest that office-based therapy is beneficial in patients with liver cirrhosis, the authors have considered that there is not enough solid evidence to elaborate a statement on this matter.

HD is present in up to 10% of patients infected with human immunodeficiency virus [100]. Older studies have reported impaired tissue healing and an increased risk of anorectal sepsis in immunocompromised patients [101]. Wound healing may be specially compromised in patients with low CD4 counts [102]. This had led to the general belief that interventions should be avoided or performed with careful consideration in immunocompromised patients. Other reports, however, have demonstrated that surgery for HD is safe in these patients [103]. At this moment, it seems wiser to use conservative measures (fluid and fiber-rich diet, laxatives, warm *sitz* baths) as the first-line treatment [104]. There is a paucity of data evaluating the safety and efficacy of instrumental techniques in immunocompromised patients with HD. Anecdotal reports have shown significant complications in human immunodeficiency virus patients following RBL [105]. However, sclerotherapy may be an attractive alternative in these patients [70]. Studies have suggested a potential benefit of antibiotic prophylaxis in these patients owing to the risk of bacteremia after sclerotherapy [106].

The prevalence of HD during pregnancy can reach 85% during the third trimester [107, 108]. Treating constipation by increasing fluid and fiber intake and taking a warm *sitz* bath 3 times a day may be helpful in improving symptoms from HD. In a prospective comparative study, relief of HD symptoms was achieved in all 284 patients in the warm *sitz* bath group but only in 179/211 patients in the control group [109].

Two randomized controlled trials including over 150 pregnant women have shown that rutosides are effective in treating symptomatic HD [110, 111]. The safety of rutosides was demonstrated in another randomized controlled trial including 69 pregnant women with venous insufficiency [112]. The combination of tribenoside and lidocaine suppositories has been studied in an old randomized parallel double-blind randomized trial versus lidocaine suppositories ($n = 21$ vs. 20) and hydrocortisone suppositories ($n = 13$ vs. 13) [113]. In both occasions, the combination of tribenoside and lidocaine appeared to be safe and to relieve HD symptoms. In an observational study, 82.5% of 33 pregnant women reported clinical improvement with oral tribenoside or a combination of tribenoside and lidocaine suppositories [114]. Again, no adverse events were reported. Finally, in a population-based study, oral tribenoside was associated with a higher risk of congenital hydrocephalus in children. However, this finding was based on only 4 cases [115]. Topical hydrocortisone has shown modest effectiveness in controlling hemorrhoidal symptoms in a randomized controlled

study against a modified toilet seat device [116]. No side effects were reported in the study. In a prospective observational study, topical hydrocortisone cream was effective in decreasing HD symptoms in 88 pregnant women [117]. Side effects were not reported in both studies. The safety of topical hydrocortisone has been evaluated in a prospective nonrandomized multicenter study comparing 204 treated pregnant women with 204 controls. No differences were found in birth weight or rates of prematurity [118]. In an open study of 50 pregnant women, a combination of diosmin and hesperidin proved effective in treating HD. Although lack of a control group precludes conclusions, significant adverse events were not noted [119].

We could not find any studies addressing the safety of any of the former drugs in lactating women.

There are no trials evaluating office instrumental therapies in pregnant or lactating women. As concerns regarding their safety during pregnancy or lactation exist, they should probably be avoided during this period.

Lastly, we should mention a specific group of patients, those with Crohn's disease. HD has been estimated in a 2012 study as affecting 1.6% of patients with Crohn's disease [120], but higher rates of prevalence (7%) have been reported [121]. Surgery is usually not indicated in these patients, especially if the disease is not quiescent [122]. Conservative management is usually advised but nonetheless is often not effective in resolving HD. There is a paucity of studies involving the office-based treatment of HD in Crohn's disease [121], and as such, the authors have decided not to elaborate a statement on the matter.

HD Complications

Statement 20

The treatment of irreducible hemorrhoidal prolapse should be surgical (*high-quality evidence*). New sclerosing techniques may be a promising alternative (*low-quality evidence*).

Agreement: 100%.

Statement 21

Treatment of external hemorrhoidal thrombosis can be conservative or surgical (*high-quality evidence*).

Agreement: 92%.

Rationale

The treatment of irreducible hemorrhoidal prolapse (Goligher grade IV) is surgical [123]. Although excision-

al hemorrhoidectomy is the most widely used technique in the world for irreducible hemorrhoidal prolapse, the comparison between surgical techniques for the treatment of grade IV HD does not show superiority of one method over another and is mainly a joint decision between the doctor and the patient [123, 124].

Although surgical treatment is quite effective in the treatment of external hemorrhoidal thrombosis, allowing the prevention of recurrence and symptom control, there is a clear lack of randomized prospective studies that allow to establish surgery as the gold standard in the treatment of this condition [125–127]. Surgical excision of external hemorrhoidal thrombosis relieves symptoms markedly on the fourth postoperative day when compared to conservative treatment [125]. One of the main doubts that remain is the optimal timing for surgery. Also, there is no evidence in the literature to support conservative treatment in the first 48–72 h of symptoms; however, clinical practice seems to favor this approach [126]. Thus, choosing between conservative treatment and surgery should take into account the patient's will and the clinician's experience [127].

There is a lack of studies aimed at the treatment of anal skin tags in patients with no other rectal pathology. Reference should be made to the existence of guidelines (which take the form of a systematic review) of the German Society of Coloproctology in conjunction with the German Society of Dermatology, but these guidelines are mostly based on studies over 30 years old [128]. In these guidelines, anal skin tags are considered to be mainly an esthetic problem, which only becomes more burdensome when it interferes with the hygiene of the patient. Thus, asymptomatic anal skin tags should not be treated, and careful hygiene should be carried out with water. The treatment of symptomatic anal skin tags should be made conservatively, with topical agents, anal hygiene, and regular habits of defecation. Fibrous skin tags that cause skin irritation or pressure on contralateral areas can be removed surgically.

Final Thoughts

HD is a common disorder that appears very often on the clinical setting. Nevertheless, from our experience, most of the knowledge and techniques that gastroenterologists use in the management of this disease are based in somewhat outdated literature or from peer learning, and no comprehensive approach to this matter is available for the Portuguese reality.

Our goal was to elaborate statements based on the most recent literature paying attention to evidence level. This way, we aimed to reinforce correct patterns of knowledge and practice to meet the standards of published evidence also trying to highlight new information on the subject. Another end point we would like to achieve is the uniformization of clinical practice regarding this disease among gastroenterologists.

It should be noted, however, that some of the topics need further research and emphasis should be made on more studies regarding several of the office-based methods available, such as sclerotherapy.

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