Quality analysis of patient information on surgical treatment of haemorrhoids on the internet

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ABSTRACT

INTRODUCTION Haemorrhoids are the most common benign condition seen by colorectal surgeons. At clinic appointments, advice given about lifestyle modification or surgical interventions may not be understood fully by patients. Patients may use the internet for further research into their condition. However, the quality of such information has not been investigated before. This study assessed the quality of patient information on surgical treatment of haemorrhoids on the internet.

METHODS Four searches were carried out using the search terms 'surgery for haemorrhoids' and 'surgery for piles' on two search engines (Google and Yahoo). The first 50 results for each search were assessed. Sites were evaluated using the DISCERN instrument.

RESULTS In total, 200 websites were assessed, of which 144 fulfilled the inclusion criteria. Of these, 63 (44%) were sponsored by herbal remedies for haemorrhoids. Eighty-nine (62%) mentioned conservative treatment options but eleven (8%) did not include surgery in their treatment options. Only 38 sites (27%) mentioned recurrence of haemorrhoids following surgery and 28 sites (20%) did not list any complications. Overall, 19 websites (14%) were judged as being of high quality, 66 (45%) as moderate quality and 58 (40%) as low quality.

CONCLUSIONS The quality of information on the internet is highly variable and a significant proportion of websites assessed are poor. The majority of websites are sponsored by private companies selling alternative treatments for haemorrhoids. Clinicians should be prepared to advise their patients which websites can provide high-quality information on the surgical treatment of haemorrhoids.

KEYWORDS

Haemorrhoids – Surgery – Internet – Patients

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Haemorrhoids are the most common chronic benign disease seen in the colorectal outpatient clinic.¹ Treatment options include conservative management such as dietary advice, rubber band ligation and injection with phenol. In cases where conservative management is unsuccessful, surgical treatment such as haemorrhoidectomy may be offered to the patient.² The decision on whether the patient should undergo conservative or operative treatment depends on the severity of haemorrhoids and the impact on the patient's quality of life. During consultation, the risks and benefits of each treatment option should be discussed with the patient. Patients are increasingly using the internet to obtain more information about treatment options for their condition.^{3,4} However, the quality of such information on the internet is highly variable⁵ and may mislead the lay public. This study assessed the quality of patient-orientated information for the surgical treatment of haemorrhoids.

Methods

Two popular search engines, Google⁶ (Mountain View, CA) and Yahoo⁷ (Sunnyvale, CA), were used to identify websites containing patient information on haemorrhoids. The search terms used were 'surgery for haemorrhoids' and 'surgery for piles'. These were kept simple to replicate typical patient searches. Searches were performed in the UK initially in August 2011 and repeated five months later to account for updates to any websites.

The first 50 websites of each search were examined as most internet users do not look at websites beyond the first 50 results.⁸ Inclusion criteria comprised websites that were free to use, did not require a password, were written in English and gave patient information on haemorrhoids. Exclusion criteria included duplicate search results, advertisements, discussion forums, resources for clinicians and trials.

Figure 1 Year of last update of websites

Figure 2 Affiliation of websites

Figure 3 Number of websites providing information on different treatment options

Websites that fit the inclusion criteria were examined further for the date of the latest update and affiliation of the group maintaining the site as well as for the types of treatment discussed and complications after surgery for haemorrhoids. As an initial analysis, both authors assessed the first 20 websites independently using the DISCERN instrument (320 observations).⁶ The kappa coefficient for this was 0.897 (95% confidence interval: 0.855–0.938). We went back to

the websites where there were discrepancies between our scores and decided to score all the websites together, including the first 20 websites, so that consensus scores could be obtained for all of them.

The DISCERN instrument

DISCERN is a questionnaire tool that provides users with a valid and reliable method of assessing the quality of information on treatment options for a particular health problem (<http://www.discern.org.uk/>).⁶ It consists of 15 key questions as well as an overall quality rating. Each question represents a specific quality criterion. The first eight questions focus on the reliability of the publication. The next seven questions relate to the quality of information on treatment options. The DISCERN instrument can be scored using the original five-point scale. It also has a three-point descriptive scale ('no', 'partially' and 'yes') of whether the website has achieved each of the criteria. The overall rating can be described as 'low', 'moderate' or 'high'. To simplify the assessment and make it as objective as possible, we used the three-point descriptive scale, similar to other recent studies.^{5,8,9}

Results

The search term 'surgery for haemorrhoids' produced 7,360,000 results in Google and 7,460,000 in Yahoo. 'Surgery for piles' returned 4,230,000 results in Google and 17,900,000 in Yahoo. Two hundred sites were examined initially, of which 144 (72%) met the inclusion criteria. Websites excluded included 25 duplications, 20 forums, 4 articles, 3 videos, 3 dead links, 2 links/news and 1 advert.

Analysis of content of patient information websites

Of the 144 patient information websites, only 41 (28%) were updated in the last year and 44 (31%) had no date of publication on the website (Fig 1). Almost half of the websites ($n=64$, 44%) were sponsored by companies promoting alternative treatments for haemorrhoids, 39 (27%) were information orientated with no sponsors, 34 (24%) were from healthcare providers and 7 (5%) were from other miscellaneous websites (Fig 2). Of the websites created by healthcare providers, 26 were private clinics (from India, UK and US) and 8 were from National Health Service (NHS) organisations. Miscellaneous websites included stapling or surgical equipment manufacturer websites as well as articles from newspapers and magazines about patient experiences with haemorrhoids.

One hundred and twenty websites (83%) included haemorrhoidectomy as a surgical option while eighty-nine (62%) mentioned conservative measures as a therapeutic measure prior to surgery. Eleven websites (8%) did not include surgery in their treatment options (Fig 3). Eighty-four (58%) described both conservative management and haemorrhoidectomy, twelve (8%) described haemorrhoidectomy alone and only one (<1%) described conservative management alone.

Pain was the most commonly described complication (103 websites, 72%), followed by bleeding (84 websites,

Figure 4 Number of websites providing information on complications following surgery for haemorrhoids

Figure 5 Number of websites that were rated as poor (1), moderate (2) or good/excellent (3) for website reliability

59%) and infection (49 websites, 34%). Only 38 websites (27%) mentioned recurrence of haemorrhoids following surgery and 28 (20%) did not list any complications of surgery (Fig 4).

Analysis of the reliability and quality of patient information websites

All 144 websites were examined using the DISCERN instrument to assess the reliability (Fig 5) and quality of information (Fig 6) on treatment options for haemorrhoids. Only 19 websites (14%) were judged as being of high quality, 66 (45%) as moderate quality and 58 (40%) as low quality. Over 50% of websites scored poorly on categories for having unclear sources of information, not including dates of publication, being biased, not listing additional sources of information of support and describing what would occur if no treatment were given.

Discussion

The internet is a useful tool for patients to find more information on many diseases and treatment options. Patients can use it to seek further information in their own time, be-

Figure 6 Number of websites that were rated as poor (1), moderate (2) or good/excellent (3) for the quality of information provided on treatment choices

fore and after clinic consultation. This is particularly helpful when patients do not take in all information relayed by the doctors. Some studies estimate this to be between 40% and 80%.⁷ However, the quality of websites providing patient information is highly variable.^{10,11} As the results of search engines are based on page rank algorithms instead of content, websites are not necessarily listed in order of quality. It is difficult for patients to identify quality sites based on a simple internet search. Search engines return different results based on previous searches and location (from internet protocol address and search settings). Our UK setting would explain the large number of NHS and UK hospital websites in the search results.

Patients are also increasingly using social media websites such as Twitter, YouTube and Facebook to share information.¹² These provide information at a more personal level but, like many web pages on the internet, they are not checked for accuracy and lack useful content.¹³ A list of quality websites should therefore be included in the patient information leaflet or provided as links from the hospital website.

Devised initially for patient leaflets but now used increasingly to examine websites, the DISCERN instrument is a validated and robust tool for assessing the reliability and quality of patient information.^{5,6} It is a 15-point questionnaire using clear rating scales. Other tools that have been used to assess online information include LIDA¹⁴ and EQIP¹⁵ but both are not used as widely as DISCERN.

One limitation of DISCERN is that it does not evaluate the accessibility and ease of navigation in a given website. We noted that many patient information websites were hard to navigate, requiring several clicks to get to the relevant information page. Overall, using the DISCERN instrument, the reliability of the websites was judged to be poor (Fig 5), with many websites scoring low marks for lack of clarity as to which sources were used, no mention of when the information was published, and lack of additional sources of support and information. With regard to quality of information on treatment choices (Fig 6), most websites did not describe what would happen if no treatment was used.

Out of 144 patient information websites, 63 (44%) were sponsored by companies selling alternative treatments for haemorrhoids. Many of these websites warned of the dangers of surgical treatment while advocating conservative management by alternative treatments. These alternative treatments included oils, topical ointments composed of all natural blends of herbs, vitamins and minerals, oral herbal supplements and homeopathy. Mini-courses on haemorrhoid symptoms and treatment were also promoted heavily, available for purchase and immediate download as ebooks. Often, the advertisements on these websites were placed more prominently than the information on treatment for haemorrhoids. Furthermore, some of the information given by these websites was not clear. For example 'paralysis' was mentioned as a complication of haemorrhoidectomy in six websites but no further information on this was provided. No evidence was presented for any treatment listed on these websites although patient testimonials were prominent and numerous.

Treatment options for haemorrhoids include open haemorrhoidectomy, stapled haemorrhoidectomy, infra-red coagulation, laser, haemorrhoidal artery ligation and haemorrhoidal artery ligation with rectoanal repair.^{16–18} Few websites mentioned all of these treatment options and even fewer provided evidence to support their recommendations, including healthcare-affiliated websites. This may be a reflection of the fact that not all institutions offer all of these types of surgical treatments.

This study is not free from methodological limitations. The UK setting of the study is reflected in the preponderance of UK-based healthcare institution websites in the search results. This bias may manifest itself by returning treatment options that reflect a country's economic, political and cultural context. The rapidly changing content available on the internet also means that search results are changing on a daily basis. Our study provides a current assessment of the quality of patient information available on surgical treatment for haemorrhoids.

Similar studies on colorectal cancer,^{10,11} familial adenomatous polyposis,⁸ diverticular disease,⁵ inflammatory bowel disease¹⁹ and fibromyalgia⁹ have identified a wide variation in the quality of websites providing patient information. Clinicians need to be aware that patient information websites vary significantly in their content and reliability. Many websites contain biased advice due to commercial interests. Clinicians should direct their patients to high-quality websites that provide balanced information on the treatment of haemorrhoids.

Conclusions

The quality of information on the internet for the treatment of haemorrhoids is highly variable and a high proportion of websites assessed are poor. The majority of websites are

commercialised and sponsored by companies promoting alternative therapies, with a tendency to provide biased information on treatment options. Clinicians should be prepared to guide their patients towards websites that can provide high-quality information.

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