Original Article

Clinicians Diagnostic Accuracy and Management Practices for Benign Anorectal Disorders

Benign Anorectal Disorders

Muhammad Taha Junaid[1], Atif Mahmood[2], Faria Khan[3], Ali Akbar[2], Hamza Akhtar[4] and Safdar Ali[4]

ABSTRACT

Objective: Hemorrhoid is the most popular diagnosis for patients coming to the doctors with anorectal complaints, especially with bleeding from the anal region. This has caused many serious anorectal problems to be ignored resulting in increased morbidity and mortality. This raised the need to determine the diagnostic accuracy of surgeons, physicians, general practitioners and medical students for common benign anorectal pathologies and measuring the impact of years of experience on the diagnostic accuracy as well.

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Department of Surgery, Abbasi Shaheed Hospital and JPMC, Karachi from October 2017 to May 2018.

Materials and Methods: Seven common anorectal disorders were selected, including, prolapsed internal hemorrhoid, thrombosed external hemorrhoid, anal abscess, anal fissure, anal fistula, condyloma acuminata, and full thickness rectal prolapse. Non-probability purposive sampling included medical students, general physicians, postgraduates of Medicine / Surgery, registrar or senior registrar, residents of Medicine / Surgery, and fellows of Medicine / Surgery. Subjects were given a self-administered questionnaire which included several questions, including demographic questions, image identification and management related questions. Evaluation was then done to compare diagnostic accuracy for different specialties and to see the correlation between diagnostic accuracy and years of experience.

Results: The overall diagnostic accuracy of surgeons was the best among all specialties at 72%. Medical students had overall better diagnostic accuracy than Physicians and GPs at 57%. The overall diagnostic accuracy of Physicians and general practitioners were almost the same, at 49% and 48% respectively. Doctors with less than 5 years' experience show an overall diagnostic accuracy of 66%. Years of experience had no correlation in the improvement of diagnostic accuracy for all specialties.

Conclusion: The diagnostic accuracy for common benign anorectal pathologies for all types of specialties was suboptimal and Multidimensional continued medical education programs are needed to update the knowledge of clinicians in this regard.

Key Words: Internal & External hemorrhoids, anal abscess, anal fissure, anal fistula, condyloma acuminata, full thickness rectal prolapse

Citation of articles: Junaid MT, Mahmood A, Khan F, Akbar A, Akhtar H, Ali S. Clinicians Diagnostic Accuracy and Management Practices for Benign Anorectal Disorders. Med Forum 2019;30(5):2-6.

INTRODUCTION

Constipation and anorectal disorders are those disorders which have not being considerable importance on a global level[1]. The fact that anorectal disorders are highly prevalent in many populations increases their significance and demand adequate consideration by the worldwide health care systems[2,3].

[1.] Department of Surgery, JM&DC, Karachi.
[2.] Department of Physiology / Anatomy[3], Bhitai Dental and Medical College, Mirpurkhas
[4.] Department of Surgery, DUHS, Karachi.

Correspondence: Dr. Atif Mahmood, Associate Professor of Physiology, Bhitai Dental and Medical College, Mirpurkhas.
Contact No: 0345-2073773
Email: atif_mahmood20@yahoo.com

Received: March, 2019
Accepted: April, 2019
Printed: May, 2019

Anorectal disorders include a variety of pathological diseases, which cause substantial pain and disability for the patients, however, usually the treatment measures are focused only on short-term relief[4]. Majority of such patients with are not seen by consultant surgeon instead by quacks or family physicians.[5]

The area of concern here is that physical examination of the anorectal area is either not done or inadequately done by the doctors of initial contact, i.e. GPs. This problem is further aggravated with it being a social taboo and thus most of the patients never seek medical advice[4]. Majority of the anorectal pathologies are, therefore, misdiagnosed largely because of lack of proper training and experience among the first line doctors for the management of anorectal disorders[7,8]. The common anorectal diseases are not fatal but have full potential to negatively impact patient's quality of life[9]. Some of the most common benign anorectal pathologies include prolapsed internal hemorrhoid, thrombosed external hemorrhoid, anal abscess, anal

fissure, anal fistula, condyloma acuminata, and full thickness rectal prolapse[6].

A thorough physical examination is of utmost importance for detection and evaluation of all anorectal disordersand must include examination of abdomen, inspection of anal and perineal areas, digital rectal examination (DRE) and anoscopy[10.11]. Other tests like sigmoidoscopy or colonoscopy are recommended for selected patients only[12]. Fortunately, once the malignancy is ruled out, more than 90% of anorectal complaints can be easily managed in the clinics using simple techniques[13].

Hemorrhoids are among the commonest anorectal diseases which affect millions of people around the globe[4,14,15]. Majority of the patients with other anorectal diseases have been reportedly misdiagnosed with hemorrhoids by general physicians(6). The objective of this study is to evaluate the diagnostic accuracy of clinicians in identification of benign anal pathologies.

MATERIALS AND METHODS

A cross sectional study was conducted on the doctors doing general practice in Karachi and consultants, residents, and students from the Tertiary Care Hospitals of Karachi operating in Public Sector. The questionnaire was distributed to 430 subjects of whom only 400 questionnaires were returned and complete. Of these 400 subjects, 211 were general practitioners, 64 were consultant physicians, 62 were consultant surgeons and 63 were medical students. Final year students who were attending different clinical rotations in the same hospitals were also selected. General practitioners with at least five years of practicing experience were included in the study. Five years of experience was taken as cut off as it is assumed that the doctors with such experience must have seen a few patients with anorectal diseases during this time period. However, a doctor with lesser experience may or may not have encountered such patients in his general practice as it also considered as a social taboo and the fact that people are more aware of the scope of general physicians and specialists these days.

Images of seven common benign anorectal pathologies were selected including prolapsed internal hemorrhoid, thrombosed external hemorrhoid, anal abscess, anal fissure, anal fistula, condyloma acuminata, and full thickness rectal prolapse[6,16]. These images were shown to general practitioners, physicians (belonging to medicine wards only), surgeons (including fellows, residents, and postgraduates) and medical students (mainly final year students) and they were asked to diagnose these seven common anorectal conditions in written for which they were provided 5 minutes. The selection of the doctors was done by non-probability purposive sampling. Demographic questionnaire and the questionnaire analyzing the effectiveness of conservative management of hemorrhoids were also filled by all subjects.

Anonymity of the subjects was ensured and written informed consent was taken from all the patients. The project was approved from the ERC of Bhitai Dental and Medical College, Mirpurkhas.

All the data was analyzed with SPSS Version 20. Chi-square statistical analysis was done to provide statistical association between years of experience and diagnostic accuracy of anorectal diseases.

RESULTS

The overall diagnostic accuracy of seven common benign anorectal pathologies across all surveyed specialties was suboptimal at 53.5%. Surgeons had overall better knowledge of the anorectal pathologies and their diagnosis was the best among all other groups at 72%. Surprisingly, diagnostic accuracy of medical students was better (57%) than physicians (49%) and general practitioners (48%). This maybe in part due to the updated knowledge and recently studied topic or clinical rotation thus, have a much better academic profile and knowledge of the anorectal diseases.

Table No.1: Demographic characteristics of the subjects (N=400)

Association of the Doctors	Frequency	Percent
Private clinic	229	57.25
Teaching Hospital	54	13.5
Non-teaching Hospital	54	13.5
Medical school	63	15.75
Specialty of the subjects	Frequency	Percent
General practitioner	211	52.75
General Physician	64	16.0
Medical student	63	15.75
General Surgeon	62	15.5
Age Groups of the subjects	Frequency	Percent
21-30 years	101	25.25
31-40 years	71	17.75
41-50 years	161	40.25
51-60 years	64	16.0
60 years plus	3	0.75
Years of Clinical Experience	Frequency	Percent
No Experience except clinical rotations	63	15.75
Less than 5 years	38	9.5
5 to 10 years	84	21.0
10 to 15 years	120	30.0
15 to 20 years	52	13.0
More than 20 years	43	10.75
Total	**400**	**100.0**

Table No.2: Association of the differential Diagnosis with the specialty of the subjects

	Prolapsed internal hemorrhoid					p value*
	Yes (n)	Yes (%)	No (n)	No (%)	Total	
General Practitioner	191	91	20	9	211	0.003*
General Physician	54	84	10	16	64	
Medical Students	47	75	16	25	63	
General Surgeon	58	94	4	6	62	
Total	350	87.5	50	12.5	400	
	Thrombosed external hemorrhoid					
	Yes (n)	Yes (%)	No (n)	No (%)	Total	
General Practitioner	12	6	199	94	211	0.000*
General Physician	16	25	48	75	64	
Medical Students	27	43	36	57	63	
General Surgeon	29	47	33	53	62	
Total	84	21	316	79	400	
	Anal Abscess					
	Yes (n)	Yes (%)	No (n)	No (%)	Total	
General Practitioner	67	32	144	68	211	0.000*
General Physician	18	28	46	72	64	
Medical Students	30	48	33	52	63	
General Surgeon	43	69	19	31	62	
Total	158	39.5	242	60.5	400	
	Anal Fissure					
	Yes (n)	Yes (%)	No (n)	No (%)	Total	
General Practitioner	82	39	129	61	211	0.000*
General Physician	25	39	39	61	64	
Medical Students	39	62	24	38	63	
General Surgeon	39	63	23	37	62	
Total	185	46	215	54	400	
	Anal Fistula					
	Yes (n)	Yes (%)	No (n)	No (%)	Total	
General Practitioner	90	43	121	57	211	0.010*
General Physician	24	38	40	62	64	
Medical Students	29	46	34	54	63	
General Surgeon	40	65	22	35	62	
Total	183	46	217	54	400	
	Condyloma Acuminata					
	Yes (n)	Yes (%)	No (n)	No (%)	Total	
General Practitioner	110	52	101	48	211	0.001*
General Physician	38	59	26	41	64	
Medical Students	42	67	21	33	63	
General Surgeon	49	79	13	21	62	
Total	239	60	161	40	400	
	Full thickness rectal prolapse					
	Yes (n)	Yes (%)	No (n)	No (%)	Total	
General Practitioner	162	77	49	23	211	0.000*
General Physician	44	69	20	31	64	
Medical Students	36	57	27	43	63	
General Surgeon	56	90	6	10	62	
Total	298	74.5	102	25.5	400	

*p value <0.05 is significant, < 0.01 is very significant, <0.001 is highly significant

Chi square is used to determine the association among these factors

DISCUSSION

Cases of anorectal complaints being misdiagnosed have been reported in other studies as well. A study was done on 100 patients with anorectal problems who were seen by a newly hired colorectal surgeon. The surgeon misdiagnosed 49 cases and thus the correct diagnosis was delayed. There were also reports of unnecessary referrals for colonoscopy in this study[7].

Years of experience across all specialties did not have any impact on the diagnostic accuracy. The results show that the fresh medical graduates tend to have more knowledge and thus better understanding of the anorectal diseases which is similar to other studies as well[17]. With additional experience, these doctors are no longer updating their academicsbecause of their increased engagement in clinics and lack of continuing medical education[18]. Grucela et al. also concluded that the diagnostic accuracy was not affected by the years of experience[6]. Surgeons and emergency medicine doctors did better by virtue of ample experience of managing such patients. Psychiatrists and pediatricians do not get such patients, so the resultant poor diagnosis is self-explanatory.

The diagnostic accuracy of physicians in this study was 49% which is really worrisome and draws attention towards lack of their exposure to the anorectal patients and thus the required training is of pivotal importance. A study found out changing trend of sub-specialization in General Surgery as increasing number of General Surgery graduates are going for fellowship training. Literature search on this topic indicates that a positive relationship exists between specialty training and better surgery outcomes. Large number of studies has validated the benefits of pursuing sub-specialization, as it is related to a wide range of colorectal care, which includes management of benign anorectal diseases as well as complex neoplastic diseases[19].

The poor diagnostic accuracy is also attributed to the fact that the number of colorectal surgeons is extremely limited. A study was done to highlight the importance of Colon and Rectal Surgery. Data from American Board of Colon and Rectal Surgery was used to compare one-year experience of colorectal residency with five-year residency (1989-1996) in General Surgery. It was found out that in one year, a colorectal resident performed much greater number of anorectal operations than a general surgeon performed in five years of experience[19]. There are many similar studies which have concluded that specialized training in colorectal surgery is of pivotal importance for the general surgeons, which equips them with all necessary expertise in the management of disorders of colon, rectum and anus and produces a true subspecialist. Such data should be collected on a continued basis to critically evaluate the nature of expertise of the colorectal residents, as there is evolving pattern of referrals with an environment of improved management and overall care of the patients. University and hospital deans can utilize the data to revamp rotations of the residents to improve the technical aspect of different residency programs[15].

The significance of the presence of a colorectal surgeon in a surgical ward is undeniable and this has amazing impact not only on the result of surgeries but also on the junior surgeons. A study was conducted to determine if the addition of a colon and rectal surgeon to the General Surgery faculty could have qualitative and quantitative improvement in anorectal surgeries for the residents of the department. For this the surgical experience of the graduating residents for a total of ten-year period was taken into account. All cases related to colon, rectum and small intestine were analyzed for five-year period before the joining of the colorectal surgeon and compared with the five-year period post the surgeon's joining. Hyman found out that quantitatively anorectal and small intestine cases increased to a significant extent. The most notable finding was more than fourfold increase in number of anorectal cases performed during the main resident year, which clearly depicts the impact of inclusion of a colorectal surgeon in the form of augmented interest in anorectal cases for the General Surgery residents (20).

Lastly, there is lack of emphasis on anorectal diseases in teaching curricula as well as limited information in majority of medical textbooks[20]. Our study also provides strong evidence that both trainees and surgeons need better academic curricula and training for improved identification of the anorectal conditions.

CONCLUSION

The diagnostic accuracy for common benign anorectal pathologies for all types of specialties was suboptimal. Years of experience had no correlation in the improvement of diagnostic accuracy for all specialties. The poor diagnostic accuracy of physicians should be seriously taken into account and prompt measures need to be taken, as this is the specialty, which is more likely to get a large number of anorectal patients.

Author's Contribution:

Concept & Design of Study:	Muhammad Taha Junaid
Drafting:	Atif Mahmood, Faria Khan
Data Analysis:	Ali Akbar, Hamza Akhtar, Safdar Ali
Revisiting Critically:	Muhammad Taha Junaid, Atif Mahmood
Final Approval of version:	Muhammad Taha Junaid

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Lankarani KB. Why colorectal diseases are important. Ann Colorectal Res 2013;1(1):1-2.
2. Zanotti C, Martinez-Puente C, Pascual I, Pascual M, Herreros D, García-Olmo D. An assessment of the incidence of fistula-in-ano in four countries of the European Union. Int J Colorectal Dis 2007;22(12):1459-62.
3. Nelson RL, Abcarian H, Davis FG, Persky V. Prevalence of benign anorectal disease in a randomly selected population. Dis Colon Rectum 1995;38(4):341-4.
4. Gupta PJ. Common anorectal conditions. Turkish J Med Sci 2004;34(5):285-94.
5. Helton WS. 2001 consensus statement on benign anorectal disease. J Gastrointestinal Surg 2002; 6(3):302-3.
6. Grucela A, Salinas H, Khaitov S, Steinhagen RM, Gorfine SR, Chessin DB. Prospective analysis of clinician accuracy in the diagnosis of benign anal pathology: comparison across specialties and years of experience. Dis Colon Rectum2010;53(1):47-52.
7. Goldstein ET. Outcomes of anorectal disease in a health maintenance organization setting. Dis Colon Rectum 1996;39(11):1193-8.
8. Lamah M, Ahmad S, Charalampopoulos A, Ho J, Leicester R. Three-year evaluation of a rapid-access coloproctology clinic. Digestive Surgery 2000;17(2):150-3.
9. Henderson PK, Cash BD. Common anorectal conditions: evaluation and treatment. Current gastroenterology reports 2014;16(10):408.
10. Mapel DW, Schum M, Von Worley A. The epidemiology and treatment of anal fissures in a population-based cohort. BMC Gastroenterol 2014;14(1):129.
11. Spanos CP, Tsapas A, Abatzis-Papadopoulos M, Theodorakou E, Marakis GN. Medical student recognition of benign anorectal conditions: the effect of attending the outpatient colorectal clinic. BMC Surg 2014;14(1):95.
12. Fargo MV, Latimer KM. Evaluation and management of common anorectal conditions. Am Family Phys 2012;85(6).
13. Pfenninger JL, Zainea GG. Common anorectal conditions. Obstet Gynecol 2001;98(6):1130-9.
14. Lohsiriwat V. Hemorrhoids: from basic pathophysiology to clinical management. World J Gastroenterol: WJG 2012;18(17):2009.
15. Wald A, Bharucha AE, Cosman BC, Whitehead WE. ACG clinical guideline: management of benign anorectal disorders. Am J Gastroenterol 2014;109(8):1141.
16. Jimeno J, Vallverdú H, Tubella J, Sánchez-Pradell C, Comajuncosas J, Orbeal R, et al. Prospective analysis of clinician accuracy in the diagnosis of benign anorectal pathology: the value of clinical information. Revista Espanola de Enfermedades Digestivas 2012;104(3):122.
17. Schubert MC, Sridhar S, Schade RR, Wexner SD. What every gastroenterologist needs to know about common anorectal disorders. World J Gastroenterol: WJG 2009;15(26):3201.
18. Ommer A, Herold A, Berg E, Fürst A, Sailer M, Schiedeck T. German S3 guideline: anal abscess. Int J Colorectal Dis 2012;27(6):831-7.
19. Patel SS, Senagore AJ, editors. General surgeons vs. colorectal surgeons: Who should be doing what to whom? Seminars in Colon and Rectal Surgery; 2013: Elsevier.
20. Hyman NH. Impact of a colon and rectal surgeon on a general surgery residency training program. Dis Colon Rectum 1999;42(2):249-51.