

ANAL FISSURE AND THROMBOSED EXTERNAL HEMORRHOIDS BEFORE AND AFTER DELIVERY

Lateef Shareef Sabeeh*¹, Mizda Abdulateef Othman² and Hanaa Mohammed
Moheyaldeen³

¹Ministry of Health - Baghdad Medical Office - Karkh, - Karkh General Hospital, Baghdad,
Iraq.

²Ministry of Health - Baghdad Medical Office - Al-Karkh, - Karkh Maternity Hospital,
Baghdad, Iraq.

³Ministry of Health - Baghdad Medical office - Al-Karkh, - Karkh Maternity Hospital,
Baghdad, Iraq.

Article Received on
08 Jan. 2019,

Revised on 29 Jan. 2019,
Accepted on 18 Feb. 2019

DOI: 10.20959/wjpr20193-14357

*Corresponding Author

Lateef Shareef Sabeeh

Ministry of Health -
Baghdad Medical Office -
Karkh, - Karkh General
Hospital, Baghdad, Iraq.

ABSTRACT

One third of patients have anal lesions after delivery. Fifty-seven percent of these patients have thrombosed external hemorrhoids, and 43 percent have an anal fissure. Thrombosed external hemorrhoids occur during and immediately after delivery, whereas anal fissure occurs during the two months after delivery. During the last 3 months of pregnancy, we observed lesions in 9.1 percent of cases, corresponding essentially (87 percent) to thrombosed external hemorrhoids. Terminal constipation is the most important risk factor for anal lesions in pregnant females, which suggests that laxative treatment should be given during childbirth and in the postpartum

period to all patients with terminal constipation during childbirth.

KEYWORDS: Anal Fissure, Thrombosed External, Hemorrhoids, Delivery.

INTRODUCTION

About one-third of women after childbirth complain of peri-anal symptoms. This is well documented by multiple population questionnaire-based studies. Self-diagnosis of peri-anal diseases is highly inaccurate,^[1] and true diagnosis of the nature of peri-anal discomfort in women in the last trimester of pregnancy or in the puerperal period has been evaluated in a few studies.^[2]

The most recent study by Abramowitz *et al.* identified constipation and late delivery (after 39.7 weeks of pregnancy) as independent risk factors for haemorrhoids and anal fissures during the third trimester of pregnancy and puerperium. We were unable to find any prospective studies that have investigated the incidence and the risk factors of peri-anal diseases from the first trimester of pregnancy to 1 month after delivery. Although the incidence of peri-anal discomfort in women during pregnancy and the puerperal period has been described in several studies,^[3] most of them are based on postal questionnaires or telephone interviews,^[4] where the symptoms of peri-anal pain and bleeding are attributed to haemorrhoids. It has been shown that the self-diagnosis of peri-anal diseases is highly inaccurate.^[5] Also, women in some of these studies were interviewed a few months to a few years after childbirth.^[6]

Some of the studies specifically excluded symptoms, which occurred during pregnancy. The present study gives an accurate estimation of incidence and type of peri-anal diseases, as physical examination and anoscopy were used to diagnose the conditions. Other studies have included physical examination, anoscopy or colonoscopy.^[6] However, they mostly looked only at specific times in pregnancy—last trimester and after delivery,^[7] immediately postpartum, or 6 weeks after delivery.

The present study gives an accurate estimation on time of occurrence of peri-anal diseases, as the women were diagnosed at the point when they complained of peri-anal symptoms during the pregnancy or after delivery. This could explain the difference in findings: Abramowitz *et al.* found a 9.1% incidence of peri-anal disease in the third trimester and 35.2% incidence within 1 month of delivery. Our study, in contrast, shows that 61% of peri-anal symptoms and diseases occur in the third trimester of pregnancy, and 37.4% at the time of delivery. Only 1.6% of women developed peri-anal diseases during the first trimester and 3.3% 1 month after delivery. Our finding is important because prophylactic measures, if any, should be undertaken within or before the third trimester, and not around delivery.

Abramowitz *et al.* identified dyschezia and late birth as significant independent prognostic factors for peri-anal disease. Interestingly, a study from India, where population consumption of fibre is very high and constipation is not common, showed the incidence of haemorrhoids to be only 1.8%.^[10] Our study also identified constipation as the single independent preventable risk factor for peri-anal disease, with a highly significant odds ratio of 18.975

(95% CI 7.125–50.535). Constipation was documented early, during the first interview, and so was likely to have caused peri-anal diseases later, during the third trimester. This is also a factor that could be influenced by prophylactic measures. Hence studies into how to avoid constipation in pregnant women and hence avoid peri-anal diseases, should be performed.^[11]

Peri-anal diseases have been linked to difficult labour. This corresponds well with the occurrence of diseases at the time of delivery. Our study also proved that a birthweight of >3800 g and prolonged straining during the second stage of the labour of >20 minutes are independently associated with peri-anal diseases of pregnancy and puerperium. Hence women with a personal history of peri-anal diseases should avoid difficult labour if they want to reduce their risk of haemorrhoids and fissures.^[12]

In 1952 Marks and Thiele³ made an interesting survey on the management of proctologic disorders in pregnant women. A questionnaire was sent to qualified obstetricians and proctologists concerning the current management of these problems. There was unanimous agreement that asymptomatic hemorrhoids should remain untreated. Sixty per cent of the obstetricians and proctologists who answered the questionnaire stated that surgical treatment for more severe hemorrhoidal diseases that did not respond to palliative measures could be safely performed during the second trimester of pregnancy. If the operation was postponed, the majority preferred the eighth to a tenth postpartum week for surgical intervention. One third of the obstetricians would permit definitive surgical treatment only between pregnancies, although no instance of miscarriage or premature labor was reported following hemorrhoidectomy done between the fourteenth and thirty-second week of pregnancy.^[13]

Marks and Thiele found that 85 per cent of all parous women with the anorectal disease had had their first severe symptoms during the initial pregnancy or delivery. This complication became progressively worse during subsequent pregnancies. The investigators strongly advised prophylactic hemorrhoidectomy before a succeeding pregnancy whenever unresolved symptomatic disease had developed.^[14]

BACK GROUND

Common Anorectal Complications in Pregnancy

There some uncertainty among obstetricians, proctologists and others concerning the most effective management of occasional pronounced anorectal complications that might affect the normal course of pregnancy.

Many prefer to defer corrective treatment of the more severe phases of the hemorrhoidal disease until the eighth to a tenth postpartum week or even later, in the hope that a physiologic and anatomic resolution of the anorectal condition will occur in the interim.^[15] At treatment during pregnancy is usually limited to emergency care, consisting of palliation for symptomatic prolapsing internal hemorrhoids, temporizing sclerosing injections for bleeding hemorrhoids, incision and expression of painful external anal thromboses and drainage for the relatively uncommon perianal abscess. In general, the attending physician has a conservative attitude toward the treatment of the afflicted pregnant patient.^[16]

In many pregnant women the first severe anorectal symptoms may be experienced during their first pregnancy or immediately following delivery.^[17] The most common complication is a symptomatic hemorrhoidal disease. An anal fissure is infrequent. Inflammatory disease and abscess formation are also relatively rare during pregnancy. Subsequent pregnancies tend to further the development of preexisting vascular anorectal disease and to increase the disability and morbidity for the mother. In addition, there is an increased susceptibility to anal thrombosis, "strangulation" and ulceration. It is possible that a bolder approach might be advisable for more adequate care of the severely distressed patient, for the suffering from the anorectal condition is often far greater than the discomfort of the pregnancy itself.

Pregnancy and parturition are not the primary causes of true hemorrhoidal disease and anorectal complications seen during the childbearing period. The basic etiologic factor is an inherited defective venous hemorrhoidal bed. A careful history will invariably bring out instances of familial hemorrhoidal disease in most cases.^[18]

The hormonal, anatomic and pelvic vascular changes of pregnancy have a profound effect on the anorectum, making hemorrhoidal disease the most common anorectal complication of pregnancy. Anal infections such as fissures, abscesses and fistulas are relatively infrequent.^[19] Physiologic engorgement of the hemorrhoidal vessels during pregnancy is quite common, transitory and requires only simple palliation. True symptomatic hemorrhoidal disease, however, is less common, more permanent and will usually need corrective treatment to prevent immediate complications and future aggravation. Serious rectal and colonic diagnostic problems demand endoscopic investigation regardless of the pregnancy. Clinical experience and studies seem to indicate that extreme conservatism in the treatment of severe complicated hemorrhoidal disease during pregnancy appears to be unwarranted. After consultation and agreement, surgical treatment of severe, disabling,

symptomatic hemorrhoids that are not responsive to palliation can be safely accomplished during the second trimester of pregnancy.^[20]

Once true hemorrhoidal disease develops, correction should be done before a subsequent pregnancy to avoid later increased aggravation and morbidity.^[21]

Hemorrhoids and related complications in primigravid pregnancy

Gastrointestinal disorders are common during pregnancy; in fact, 0.2–1% of pregnant women need to visit a general surgeon during their pregnancies. Hemorrhoids are also extremely common during pregnancy; however, their exact incidence is not known.^[22] One study with 835 patients reported a hemorrhoid prevalence during pregnancy of 86%, which was not different from the same age group.^[23] Hemorrhoids are also common in the postpartum period. It has been reported that 33% of these patients are suffering from thrombosed external hemorrhoids, or anal fissures during this period.

Although various risk factors have been described, the exact mechanism and biological rationale behind pregnancy-related perianal problems are not clear. Functional constipation is another common issue during pregnancy, with an incidence ranging between 11% and 38%.² Unfortunately, there is not enough data to adequately evaluate the effectiveness and safety of pharmacological and non-pharmacological treatment modalities for constipation in pregnancy.^[24] However, some risk factors such as older age, high body mass index, and sedentary occupation have been described.

METHODS

Constipation, urinary and anal incontinence, and sexual behavior were investigated. Terminal constipation (dyschezia) was defined as difficulty in completing rectal evacuation. The anal fissure was defined as a split or tear in the anal canal and thrombosed external hemorrhoids as blue tumefaction with or without edema located under the linea pectinea. If abnormal results were obtained on proctoscopy, the onset of symptoms was determined retrospectively to ascertain the date of onset of the disease. Information about the labor, baby, and delivery was obtained from obstetric records. No recommendation was given concerning medication.

A total of 150 primigravid women with no antenatal history of anal fissure or anorectal surgery were studied. Anal manometry was performed 6 weeks before and after delivery. The

diagnosis of the anal fissure was established on the basis of clinical history and examination at or before the 6-week postnatal check.

Symptomatic patients were treated with stool softeners, laxatives and local anaesthetic cream and were reviewed at a perineal clinic until asymptomatic or surgical referral. Anal manometry was performed using a single-channel solid-state transducer (Gaeltec, Isle of Skye, UK) mounted in a flexible catheter, recorded on a Digitrapper (Synectics, Stockholm, Sweden) using a station pullthrough technique. Measurements were recorded in eight radial planes in the anal canal to account for radial asymmetry. Mean maximum resting pressure and the mean maximum squeeze pressure increment were recorded for each patient.

RESULTS

Anal Fissure and Thrombosed External Hemorrhoids During the Last Three Months of Pregnancy Fifteen (9.1 percent) of the 90 females included in the study presented with anal disease (13 with thrombosed external hemorrhoids and 2 with anal fissures) before delivery. These diseases were more frequently ($P 0.023$) observed in females with dyschezia (7/35, or 13.4 percent) than in those without dyschezia (8/ 127, 6.3 percent). They were also observed more frequently ($P 0.000$) in patients with urinary incontinence during pregnancy (11/70, 15.9 percent).

Anal incontinence during pregnancy and parity did not affect the incidence of these diseases. Anal Fissure and Thrombosed External.

Hemorrhoids in the Postpartum Period (45.1 percent) of the 90 females presented with anal disease (33 with thrombosed external hemorrhoids and 25 with anal fissures). Ten of the anal fissures were anterior, 12 were posterior, and 3 were present at both locations. Thirty (88 percent) of the 33 thrombosed external hemorrhoids were observed during the first day after delivery, whereas anal fissures were distributed, with no peak, over the 2 months after delivery.

Concordance Between Anal Diseases

Before and After Delivery

One hundred three of the 165 patients had normal anal examinations both before and after delivery; 12 patients (3 with anal fissures and 9 with thrombosed external hemorrhoids) had the same anal diseases before and after delivery.

Risk Factors for Anal Disease after Delivery

Because the difference between anal examination results before and after delivery was significant ($P < 0.000$), we included all variables concerning delivery, the characteristics of the mother and baby, dyschezia, and anal and urinary incontinence in the statistical analysis of the results of anal examination after delivery. Univariate analysis identified six risk factors for anal disease.

Stepwise logistic regression identified only dyschezia and late delivery as independent risk factors. The most important risk factor was dyschezia, with an odds ratio (95 percent confidence interval) of 4.1 (2.7–12.0). Indeed, of the 55 patients with dyschezia, 21 (38.2 percent) had an anal fissure, 12 (21.8 percent) had thrombosed external hemorrhoids, and 22 (40 percent) had normal anal examinations. Conversely, of the 110 patients without dyschezia, 4 (3.6 percent) had an anal fissure, 21 (19.1 percent) had thrombosed external hemorrhoids, and 85 (77.3 percent) had normal anal examinations. The second risk factor was a late delivery, with an odds ratio (95 percent confidence interval) of 1.4(1.05–1.9). Patients who delivered after 39.7 weeks of pregnancy were more likely to have the anal disease than those who delivered before that time.

DISCUSSION

However, the effects of pregnancy on congenitally weakened anorectal vascular tissues or on pre-existing hemorrhoidal disease are likely to be more profound and permanent. In such cases, aggravated vascular damage, permanent anorectal disability and considerable morbidity could develop during and following pregnancy. Corrective surgical treatment in the second trimester of pregnancy or in the postpartum period may be necessary to reduce morbidity during parturition and to avoid reactivation in subsequent pregnancies.^[28] All patients who have had severe hemorrhoidal symptoms in the third trimester which do not subside during the postpartum period should certainly have definitive surgical treatment before the next pregnancy. No exact clinical data are available concerning the actual incidence of true symptomatic hemorrhoidal disease in pregnancy. We are not considering as true hemorrhoidal disease the very common physiologic engorgement and dilatation of hemorrhoidal veins which is often exaggerated in the terminal phases of pregnancy. These effects are usually a temporary nuisance, do not affect the normal course of labor and present no particular problems in management. True external hemorrhoidal disease in pregnancy on the other hand, is shown by external anal thrombosis, perianal hematomas or inflamed

external anal tags. If the symptoms are severe and palliative measures do not give adequate relief, total excision of external hemorrhoid and clot under local anesthesia can be done safely at any stage of pregnancy. Simple incision and expression of the thrombus are often inadequate and recurrence is common.

Hemorrhoids, especially thrombosed ones, are not only a disease but also a social problem, as more than one third of women at reproductive age suffer from this condition. 3,5 Furthermore, thrombosed hemorrhoids as well as those with concomitant anal fissures can lead to serious complications.

There is a wide spectrum of risk factors for the occurrence of hemorrhoids, and becomes increasingly complex during pregnancy.^[26]

The question is the presence of a wide range of perianal symptoms and the different treatment modalities due to the severity of the symptoms, from simple topical treatments to surgical interventions together with different drugs.^[27]

Another problem is the lack of prospective randomized epidemiological studies in this field. In this study, we examined the effect of pregnancy itself on the occurrence of external hemorrhoids in a specific group of patients, i.e., primigravid women without a history of perianal diseases, and excluded those with immune and inflammatory diseases, diabetes mellitus, gastrointestinal tract problems, and previous rectal and perianal surgery. In our small clinical series, we observed hemorrhoids and related complications in 18% of cases, which is much lower than expected.^[28] External hemorrhoids/perianal complications were present in 5, 8 and 11 women in the 11–14th, 24th and 37th gestational weeks, respectively. The development of hemorrhoids is thus strongly related to the direct effect of the hormonal, metabolic, and mechanical changes during the course of pregnancy. The effect of birth trauma was not examined in this study.

In our study, constipation was present in (44.3%), women in the 11–14th, 24th, and 37th gestational weeks, respectively. We found a statistically significant relationship between external hemorrhoids/perianal complications and gestation-induced constipation, which is most probably due to increased intra-abdominal pressure and impaired enlarged uterus and pelvic floor interaction. A statistically significant association was also found between lower birthweight and perianal complications. This might be due to the obstetrical complications leading to low birthweight, which may also affect the uterus-pelvic floor interaction.

Constipation is very common during pregnancy and a predisposing factor for hemorrhoids. Increased fiber and water intake, and defecation training are advocated to resolve constipation and indirectly alleviate the symptoms of hemorrhoids. In our study, hemorrhoid complaints increased despite dietary recommendations and physiotherapy interventions such as physical activity advice and toilet habit training. The reason for this increase may have been that the study participants failed to follow the recommendations, which presents a limitation to this study. There is a need for further research where the adherence of pregnant women to the proposed recommendations is monitored.^[29]

CONCLUSIONS

Haemorrhoids and anal fissures are common during the last trimester of pregnancy and at the time of delivery. Constipation, personal history of peri-anal diseases, the birthweight of the newborn being >3800 g and prolonged straining during the second stage of labour for >20 minutes are independently associated risk factors. Further studies must be performed to evaluate measures to prevent constipation and reduce the incidence of haemorrhoids and fissures during pregnancy.

REFERENCES

1. Turawa EB, Musekiwa A, Rohwer AC. Interventions for treating postpartum constipation. *Cochrane Database Syst Rev.*, 2014. CD010273.
2. Watson A, Al-Ozairi O, Fraser A, et al. Nicorandil associated anal ulceration. *Lancet.* 2002 Aug 17; 360(9332): 546-7.
3. Sánchez Romero A, Arroyo Sebastián A, Pérez Vicente F, et al. Open lateral internal anal sphincterotomy under local anesthesia as the gold standard in the treatment of chronic anal fissures. A prospective clinical and manometric study. *Rev Esp Enferm Dig.*, 2004 Dec; 96(12): 856-63.
4. Novotny NM, Mann MJ, Rescorla FJ. Fistula in ano in infants: who recurs? *Pediatr Surg Int.*, 2008 Nov; 24(11): 1197-9.
5. Natural Standard: The Authority on Integrative Medicine.
6. Hancke E, Rikas E, Suchan K, et al. Dermal flap coverage for chronic anal fissure: lower incidence of anal incontinence compared to lateral internal sphincterotomy after long-term follow-up. *Dis Colon Rectum*, 2010 Nov; 53(11): 1563-8.
7. Madalinski M, Chodorowski Z. Why the most potent toxin may heal anal fissure. *Adv Ther.*, 2006 Jul-Aug; 23(4): 627-34.

8. Lorenc Z, Gokce O. Tribenoside and lidocaine in the local treatment of hemorrhoids: an overview of clinical evidence. *Eur Rev Med Pharmacol Sci.*, 2016; 20: 2742–51.
9. Parangi S, Levine D, Henry A, Isakovich N, Pories S. Surgical gastrointestinal disorders during pregnancy. *Am J Surg.*, 2007; 193: 223–32.
10. Haas PA, Haas GP, Schmaltz S, Fox TA Jr. The prevalence of hemorrhoids. *Dis Colon Rectum*, 1983; 26: 435–9.
11. Kubicsek T, Kazy Z, Czeizel AE. Teratogenic potential of tribenoside, a drug for the treatment of haemorrhoids and varicose veins – a population-based case–control study. *Reprod Toxicol*, 2011; 31: 464–9.
12. Lorenc Z, Gokce O. Tribenoside and lidocaine in the local treatment of hemorrhoids: an overview of clinical evidence. *Eur Rev Med Pharmacol Sci.*, 2016; 20: 2742–51.
13. Turawa EB, Musekiwa A, Rohwer AC. Interventions for treating postpartum constipation. *Cochrane Database Syst Rev.*, 2014. CD010273.
14. Medich DS, Fazio VW. Hemorrhoids, anal fissure, and carcinoma of the colon, rectum, and anus du.
15. Calhoun BC. Gastrointestinal disorders in pregnancy. *Obstet Gynecol Clin North Am*, 1992; 19: 733–44.
16. Pope, C. E.: The profound effect of pregnancy on the gastrointestinal tract, particularly on the incidence of colonic and anorectal infection and disease, *Postgrad. Med.*, 1954; 16: 58- 72.
17. Marks, M. M., and Thiele, G. H.: Management of proctologic disorders in pregnant and parous women, *Am. J. Surg.*, 1955; 90: 826-833.
18. Singer AJ, Brandt LJ. Pathophysiology of the gastrointestinal tract during pregnancy. *Am J Gastroenterol*, 1991; 86: 1695–712.
19. Charles D. Special problems of the colon and rectum encountered in obstetric practice. *Clin Obstet Gynecol*, 1972; 15: 522–41.
20. Martin JD. Post-partum anal fissures. *Lancet*, 1953; 7: 271–3.
21. Gerwig, W. H., Jr.: Anorectal complications of pregnancy, *Amer. Surgeon*, 1956; 22: 549-553.
22. Rouillon JM, Blanc P, Garrigues JM, et al. Analyse de l'incidence et des facteurs é'thiopathogé'niques des thromboses hé'morroï'daires du post-partum [abstract]. *Gastroenterol Clin Biol.*, 1991; 15: A300.
23. Loder PB, Kamm MA, Nicholls RJ, et al. Haemorrhoids: pathology, pathophysiology andaetiologi. *Br J Surg*, 1994; 81: 946–54.

24. Turawa EB, Musekiwa A, Rohwer AC. Interventions for treating postpartum constipation. *Cochrane Database Syst Rev.*, 2014. CD010273.
25. Parangi S, Levine D, Henry A, Isakovich N, Pories S. Surgical gastrointestinal disorders during pregnancy. *Am J Surg.*, 2007; 193: 223–32.
26. Medich DS, Fazio VW. Hemorrhoids, anal fissure, and carcinoma of the colon, rectum, and anus during pregnancy. *Surg Clin North Am.*, 1995; 75: 77–88.
27. Hollingshead JR, Phillips RK. Haemorrhoids: modern diagnosis and treatment. *Postgrad Med J.*, 2016; 92: 4–8.
28. Vazquez JC. Constipation, haemorrhoids, and heartburn in pregnancy. *BMJ Clin Evid.*, 2010; 2010: 1411.
29. Haas PA, Haas GP, Schmaltz S, Fox TA Jr. The prevalence of hemorrhoids. *Dis Colon Rectum*, 1983; 26: 435–9.