

Role of defecation postures on the outcome of chronic anal fissure

Imtiaz Ahmed, Muhammad Najmuddin Shabbir, Mohammad Ali Iqbal, Muhammad Shahzeb Najam

Abstract

Objective: To evaluate the effect of defecation postures on the outcome of chronic anal fissure.

Methods: Hundred patients were evaluated with signs and symptom of chronic anal fissure. They were assessed before and after changing their defecation postures. In our study we compared commode & squatting versus modified commode squatting pattern.

Results: Total 100 patients were subjected for the trial and they were divided equally in two groups according to their pattern of defecation posture, commode & squatting. Patients who did not respond in both the groups were subjected to modified commode squatting posture, which has the advantage of both the groups. Our result clearly shows that modified commode squatting posture has the highest success rate for the treatment of chronic anal fissure.

Conclusion: Our study concludes that changing defecation pattern results in complete emptying of rectum in a shorter time with less application of expulsive force. This leads to reduction of symptoms and healing of chronic anal fissure.

Keywords: Anal fissure, Defecation, Squatting, Sitting posture, Modified commode squatting

Introduction:

Normal defecation is initiated by three components (a) spontaneous phasic contraction of rectum starting during filling¹⁻⁴ (b) smooth muscle relaxation of the anal canal with an increased recto anal angle^{5, 6} (c) application of voluntary expulsive force as straining.^{7,8} Out of these, straining constitutes the most important factor leading to the development of anal fissure.⁹

In Asia the most popular method of defecation is squatting posture in comparison to sitting posture, which is popular in western world. Excessive straining during defecation with hard stool is one of the major factors in the development of anal fissure.¹⁰ Our study evaluated the effect of decreased expulsive effort required by using modified defecation position on the progression of chronic anal fissure.¹¹

Methodology:

We inducted fifty patients for commode (C)

& fifty for squatting (S) group with symptoms of chronic anal fissure. Both the groups were subjected to conservative medical treatment (analgesia, sitz bath, 0.2 % Glyceryl Trinitrate Ointment, and stool softeners).^{10,12} Patients who did not respond or those with recurrence of symptoms were referred for modified commode squatting defecation posture. The study continued for 12 months. Patients included in the study had chronic anal fissure characterized by painful defecation & passage of blood per rectum, & difficulty in sitting. Patients excluded from study were those being unable to maintain a squatting posture due to any cause and those with less than 1 or more than 3 defecations in a day. Patients with previous history of surgery were excluded from study. All patients were physically examined and clinical details of the fissure were recorded. A standardized questionnaire was filled out recording the type and severity of symptoms. The patients were informed about current conventional methods of treat-

United Medical & Dental College, Karachi

I Ahmed
MN Shabbir
MA Iqbal
MS Najam

Correspondence:

Dr. Imtiaz Ahmed
Assistant Professor, United Medical & Dental College, Creek General Hospital Korangi Karachi.
E-mail: driq00@hotmail.com

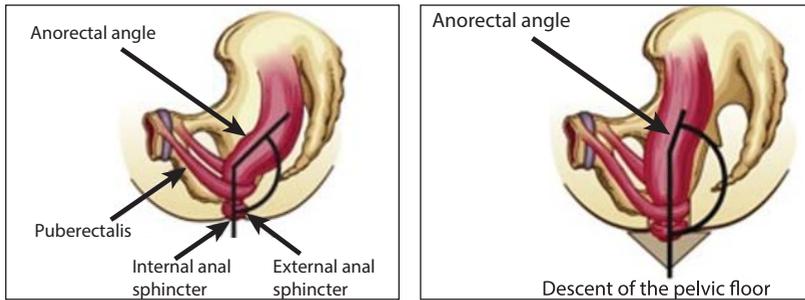


Figure 1: (a) Sitting Posture ; (b) Squatting Posture

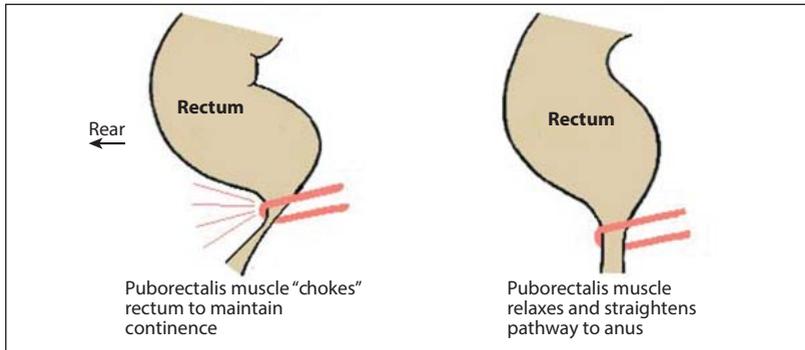


Figure 2: (a) Sitting Posture ; (b) Squatting Posture



Figure 3: Commode (Sitting) Posture



Figure 4: Modified Commode Squatting Posture



Figure 5: Modified Commode Squatting Posture

50 for squatting. The patients presented with burning pain, bleeding & itching. There were 35 males and 15 females in the commode group and 22 males and 28 females in the squatting group. Mean age was 49 years for the commode group and 41 years for the squatting group. 50 patients were subjected to commode group, 23 (46%) responded to the treatment & 27 (54%) did not respond. In squatting group 50 patients were subjected for the trial, out of them 28 (56%) responded and 22 (44%) did not respond. Those patients who did not respond from both the groups were referred to modified commode squatting group i-e 49 (49%) patients. Our result shows 37 (75.5%) patients responded and 12(24%) did not respond who were referred for lateral sphincterectomy. Comparison between two groups indicated that a change from commode & squatting to modified commode squatting position results in significant reduction in symptoms. The number of patients who had complete stoppage of bleeding and pain were significantly greater in the modified commode squatting posture group our results clearly indicate that two important factors for complete rectal evacuation are (a) Intra-abdominal pressure (b) Recto-anal angle. In sitting position intra-abdominal pressure is decreases & the Anorectal angle is formed at 90° (fig 1, 3), which makes difficult to straighten the "S" shape rectum & thus result in forceful or incomplete evacuation. On the other hand squatting position has its own limitation especially for the patients suffering from obesity, arthritis, & backache. This makes it difficult for them to defecate completely in a given time. However the patients who were referred to a modified commode squatting position have the benefit of both the positions (sitting & squatting) i-e patient can sit in comfort & yet generating the sufficient intra abdominal pressure necessary to defecate completely & thus the recto-anal angle which is formed at 35° (Fig: 4) facilitates less expulsive effort for complete emptying of rectum.

ment. They were advised to use only the modified commode squatting position for defecation.

Results:

Hundred consecutive patients with chronic anal fissure lasting for several months were recruited for the trial, 50 patients for the commode and

Discussion:

The most important conclusion of our study is that simply by changing the defecation posture from sitting or squatting position to a modified

commode squatting position reduces or almost totally eliminates the symptoms of chronic anal fissure. Patients who acquire a modified commode squatting defecation posture earlier, feel a more distinctly reduced severity in symptoms. Partial or complete resolution of symptoms among patients who switched from a commode and squatting to a modified commode squatting defecation posture may be explained by the less expulsive effort needed to defecate, thus preventing further injury to the anal mucosa. The explanation for the diminished expulsive defecation effort required in a modified commode squatting posture relates to the dynamic mechanics of the recto anal canal. The recto anal angle is greater with lower abdominal pressure in modified commode squatting posture than the corresponding values in sitting posture. The recto anal angle increases when hips are fully flexed corresponding to the modified commode squatting position thereby converting the recto anal canal to a straightened passage. This facilitates easier rectal emptying. A larger recto anal angle achieved in modified commode squatting position is due to the relaxed puborectalis and other muscles of the pelvic floor.^{13,14,15} (Fig. 1, 2, 3, 4, 5)

Conclusion:

Our results clearly conclude that by simply changing posture of defecation and keeping in view the anatomical angle formed during this posture not only cures but also prevents the occurrence of anal fissure in first hand and can save the patient from lot of agony, pain and loss of their industrial hours.

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