Published in final edited form as:

Int J Gynaecol Obstet. 2009 March ; 104(3): 246–247. doi:10.1016/j.ijgo.2008.10.017.

Histopathology of recurrent mechanical fissure of the fourchette*

Colleen M. Kennedy^{a,*}, Elizabeth Manion^b, Rudolph P. Galask^a, and Jo Benda^{a,b}

^a Department of Obstetrics and Gynecology, University of Iowa, Carver College of Medicine, Iowa City, USA

^b Department of Pathology, University of Iowa, Carver College of Medicine, Iowa City, USA

Synopsis

Recurrent mechanical fissure of the fourchette may occur as a primary finding with nonspecific histopathologic changes.

Keywords

Fissure; Fourchette; Histopathology; Tear

Recurrent mechanical fissure of the posterior fourchette, previously termed vulvar granuloma fissuratum by Kennedy et al. [1], is characterized by recurrent superficial splitting of the mucosa with severe pain on vaginal penetration particularly with intercourse and vaginal examination [1]. While recurrent fissure of the posterior fourchette is not uncommon, references are scarce concerning this condition [2,3]. Anecdotal evidence suggests that most gynecologists have encountered patients with this disorder. Furthermore, description has been primarily clinical or associated with pathologically confirmed specific diagnoses such as lichen sclerosis and atrophic dermatitis [3].

The aim of the present study was to rereview the pathologic specimens from women who underwent excision of recurrent mechanical fissure of the fourchette to specifically take into account histologic features common to the process.

Patients in this nonrandomized retrospective chart review were women with recurrent mechanical fourchette fissure who underwent perineoplasty repair from January 1, 1995 through December 31, 2003 by a single practitioner (RPG). Surgery was offered only if treating all coexisting conditions medically had resulted in insufficient improvement. The University of Iowa Institutional Review Board approved the study.

Forty-two patients with recurrent mechanical fissure of the fourchette were evaluated and treated, of which 22 underwent perineoplasty repair. Following induction of anesthesia, gentle downward traction was applied to the posterior fourchette to recreate the area at risk for fissure development. A complete description of the repair has been reported previously [1]. Pathology specimens were available for 19 of the 22 women and were critically rereviewed by two

* Abstract presented at the International Society for the Study of Vulvovaginal Disease, 19th World Congress, July 28–August 4, 2007, held in Alaska, USA.

Corresponding author: Colleen M. Kennedy, UIHC, OB/GYN 4BT, 200 Hawkins Drive, Iowa City, IA 52242, USA, Tel: +1 319 384 6849; Fax: +1 319 356 3901, Email address: E-mail: colleen-kennedy@uiowa.edu.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

pathologists (EM and JB) to specifically evaluate for the presence of a unifying pathological diagnosis. Pathologic specimens from the posterior fourchette removed for other causes without recurrent fissures were reviewed as controls for the submucosal microscopic anatomy.

Mean age at the time of perineoplasty was 42 years (range, 27–65 years). Initial histology revealed nonspecific chronic inflammation of the vulvar tissues for the majority of patients. Additional pathologic findings included acanthosis, parakeratosis, and fibrosis. Identification of disease processes was occasionally noted and typically confirmed the clinical co-diagnoses, for example lichen sclerosus. Further demographics for the entire cohort have been presented previously [1].

Rereview of the specimens did not reveal any specific pathologic change or diagnosis. Fissures were difficult to identify separate from changes associated with the surgical procedure as they were induced as a part of the surgical process, and thus had no specific associated inflammatory or repair processes. Nonspecific changes including chronic inflammation, hyperkeratosis, and parakeratosis were the only consistent findings.

All of the specimens had variable amounts of chronic inflammation ranging in grade from minimal to severe. The chronic inflammation was predominantly submucosal, although 4 of the 19 cases did have some component of interface chronic inflammation (at the junction between the base of the epithelium and the superficial submucosa) with exocytosis of chronic inflammatory cells into the epithelium. Varying degrees of hyperkeratosis and parakeratosis were present in 14 of the 19 specimens.

Additional findings included a noncaseating granuloma (1 case with co-existing lichen sclerosus), foreign body giant cell inflammation (2 cases with co-existing vulvar vestibulitis), and acute inflammation (2 cases: one with each lichen simplex and vulvar vestibulitis). Four of the 19 cases had a specific pathologic abnormality. Three confirmed a clinical diagnosis of lichen sclerosis, and one revealed changes consistent with a traumatic neuroma and scar tissue in a multiparous woman.

Fibrosis was initially reported as a significant finding in the majority of specimens. However, a similar mix of fibrous tissue and smooth muscle bundles was noted on review of specimens of the vulva that did not have recurrent fissures.

Oral granuloma fissuratum was initially described by Sutton in 1932 [4], and later reported occurring on the nose and ears [1]. It was subsequently noted that the name “granuloma fissuratum” was a misnomer, as the major histologic features included epidermal hyperplasia with fibrosis and chronic inflammation; with occasional notation of hyperkeratosis and parakeratosis [1]. In addition, granuloma fissuratum as described from sites other than the vulva is characterized by epidermal depressions with intact skin.

On histologic review of the vulvar cases of recurrent mechanical fissure, what was initially thought to represent fibrosis was actually a constant histologic finding when compared with posterior fourchette specimens without the clinical diagnosis of recurrent mechanical fissure. The initial reports of fibrosis reflect minimal exposure of pathologists to the microscopic anatomy of the submucosa of the posterior fourchette. Consequently, chronic inflammation, hyperkeratosis, and parakeratosis appear to be the only common, although nonspecific, histopathologic findings for granuloma fissuratum occurring elsewhere and recurrent mechanical fissure of the fourchette. Furthermore, despite the presence of a fissure, these findings are not likely to be representative of “granuloma fissuratum” occurring elsewhere and should therefore be referred to by description rather than the misnomer “granuloma fissuratum”.

In summary, the development of vulvar fissures, while common with some vulvar dermatoses, may also occur as a primary finding with nonspecific histopathologic change.

Acknowledgements

The study was funded in part by the NICHD HD045769 as part of a K23 Career Development Award (CMK).

References

1. Kennedy CM, Dewdney S, Galask RP. Vulvar granuloma fissuratum: a description of fissuring of the posterior fourchette and the repair. *Obstet Gynecol* 2005;105(5 Pt 1):1018–23. [PubMed: 15863539]
2. Edwards L. Vulvar fissures: causes and therapy. *Dermatol Therapy* 2004;17(1):111–6.
3. Wong CS, Andrew S, Yell J. Isolated vulvar splitting--is this normal or pathological? *J Obstet Gynaecol* 2004;24(8):899–902. [PubMed: 16147647]
4. Sutton RL Jr. A fissured, granulomatous lesion of the upper labio-alveolar fold. *Arch Derm* 1932;26:425–7.