

# Spontaneous Re-Closure of Hymen During Pregnancy, Seventeen Years After Hymenotomy: Case Report

## Himenotomiden 17 Yıl Sonra, Gebelik Sırasında Himenin Kendiliğinden Kapanması

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**ABSTRACT** Imperforate hymen is a rare disorder in which the hymen has no opening. It usually occurs congenitally, secondary to failure of the hymen to perforate completely in the late fetal period. Until late fetal life, the lumen of the vagina is separated from the cavity of urogenital sinus by a membrane: the hymen. The hymen usually ruptures during the perinatal period and remains as a thin fold of mucous membrane just within the vaginal orifice. Secondary closure of the hymen has been reported in 3 women, two of which occurred subsequent to surgical procedures that involved the hymen. We present an interesting case of spontaneous re-closure of hymen during pregnancy after previous hymenotomy. Imperforate hymen is not only a congenitally occurred disorder, secondary closure of the hymen after previous hymenal surgery or spontaneously was seen especially in pregnancy.

**Key Words:** Pregnancy; hymen

**ÖZET** İmperfore himen, himenin doğal açıklığının olmadığı nadir bir bozukluktur. Genellikle konjenital olarak, geç fetal dönemde himenin olağan perforasyonunun tam gerçekleşmemesi sonucunda ortaya çıkar. Geç fetal döneme kadar vajina lümeni, ürogenital sinüs kavitesinden himen denilen membran ile ayrılır. Himen genellikle perinatal dönemde rüptüre olur ve vajinal orifis girişinde ince bir mukoza katlantısı olarak kalır. Himenin sekonder kapanması üç kadında bildirilmiştir, bunların ikisi daha önce himenle ilgili cerrahi müdahale geçiren olgulardır. Biz geçirilen himenotomiden yıllar sonra, gebelik sırasında himenin kendiliğinden kapandığı ilginç bir olgu sunacağız. İmperfore himen sadece konjenital oluşan bir bozukluk değildir, himenin sekonder kapanması önceden himen cerrahisi geçirenlerde veya spontan olarak da özellikle gebelikte görülmektedir.

**Anahtar Kelimeler:** Gebelik; himen, kızlık zarı

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The hymen, a thin membrane, separates the lumen of the vagina from the cavity of the urogenital sinus until late fetal life. It is formed by the expansion of the caudal end of the vagina resulting in invagination of the posterior wall of the urogenital sinus. The hymen usually dissolves during the perinatal period.<sup>1</sup> However, failure of the hymen to perforate completely in the perinatal period can result in varying anomalies including imperforate, microperforate, cribriform, navicular, or septated hymen shape form.<sup>2</sup> Such anomalies are ideally recognized at birth as part of the newborn examination or seen in childhood as part of genital examinations. But it is usually discovered after the onset of menstruation due to symp-

toms of accumulated menstrual blood. Less commonly, patients complained from pressure symptoms including urinary retention or constipation.<sup>3</sup>

We present an interesting case of spontaneous re-closure of hymen during pregnancy, several years after previous hymenotomy.

## CASE REPORT

A 31-year-old pregnant woman was presented to the Department of Obstetrics and Gynecology of the University of Fatih at 7 weeks gestation in her first pregnancy. She refused vaginal examination that's why pelvic ultrasonography was used for follow-up.

Her gynecologic history revealed that, when she was 13 years old she had experience of pelvic distension, pain and amenorrhea, and an imperforate hymen was diagnosed. After surgical hymenotomy her symptoms were relieved and she had regular menstrual cycles.

She was married 29 years old and she didn't have any coital abnormalities. She stated that she had sexual activity several times until the third month of her pregnancy. When her pregnancy was 18 weeks of gestation she complained from pelvic pain and vaginal spotting. Her pelvic examination demonstrated that her hymenal orifice was closed completely. To better evaluate the fibrotic membrane we pushed posterior vaginal wall with rectal digital examination. Neither a visible perforation nor blood on the surface of the hymenal fibrotic

membrane could be seen (Figure 1). An electrosurgical incision was performed on the fibrotic membrane to create an opening (Figure 2). Postoperative course was successful, and her pregnancy has been continued without any specific complication. Although she had not had intercourse after electrosurgical incision, hymeneal orifice was patent to the end of gestation.

## DISCUSSION

Literature shows that imperforate hymen is not only a primary or congenitally occurred disorder, closure of the hymen after genital trauma or after previous hymenal surgery, during pregnancy, is reported.<sup>4,5</sup> Secondary spontaneous occlusion of the hymen during pregnancy in the absence of previous surgical procedure, was also reported.<sup>6</sup> Our case is the third woman in which a secondary spontaneous closure hymen was seen in pregnancy.

In 1987, Berkowitz et al reported an abused child in which seven months after surgical correction of genital lacerations the hymen was occluded by an adhesive and opaque scar.<sup>4</sup> In 2002, Chao-Hsi and Ching-Chung reported a pregnant woman, when she was 13 years old she had been subjected to a hymenotomy.<sup>5</sup> She was delivered by cesarean section at 37 weeks gestation, but a thick fibrotic membrane occluded the vaginal introitus, blocking the passage of the lochia. Although she claimed to have regular sexual activity, her husband had the problem of premature ejaculation and she seldom



FIGURE 1: Hymenal orifice was closed completely by a fibrotic tissue.



FIGURE 2: An electrosurgical incision was performed on the fibrotic membrane.

felt penetration. The authors concluded that in the absence of menstruation, and without the impact of sexual intercourse, a concentric fibrotic process can form from the hymen rim.

In 2005, Onan and colleagues presented a case of the spontaneous formation of an imperforate hymen during pregnancy in the absence of previous surgical procedures.<sup>6</sup> She had not had coital activity after she learned that she was pregnant. They evaluated the hymen biopsy specimen by electron microscopy, and found strong evidence of accelerated hymenal tissue reorganization. They suggested, after the cessation of coital activity, a healing process that was possibly related to the pregnancy may explain the closure.

Acar et al reported the surgical outcome of 65 women with imperforate hymen treated with a central surgical incision and insertion of a Foley catheter.<sup>7</sup> After the procedure, hymenal orifice was

created and remained open in all women except two of them. They believed, closure of artificially created hymenal orifice in these two women was related to inappropriate administration of topical estrogen cream. Authors report that nineteen of these women fell pregnant, but they did not report any pregnant case with reclosure of hymenal orifice.

The common characteristics of these women with secondary closure of the hymen are pregnancy, cessation of sexual intercourse during pregnancy and previous hymenal surgery in two of them. These cases are thought us imperforate hymen is not only congenitally (primary) occurred disorder it also occurs secondary (acquired). After the cessation of coital activity, a healing process that was possibly related to the pregnancy may explain the cause of closure. But we don't know exactly what is the reason of this accelerated hymenal tissue reorganization in these patients.

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