



## Acute renal failure due to complete labial fusion: A case report



Serdar Başaranoğlu<sup>b,\*</sup>, Faruk Doğan<sup>a</sup>, Ayşegül Deregözü<sup>c</sup>

<sup>a</sup> Bilge Hospital, Department of Obstetrics and Gynecology, 34240, Istanbul- TURKEY

<sup>b</sup> Via Hospital, Department of Urology, 34350, Istanbul- TURKEY

<sup>c</sup> Bahçelievler State Hospital, Department of Obstetrics and Gynecology, 34344, Istanbul- TURKEY

### ARTICLE INFO

#### Article history:

Received 26 April 2016

Received in revised form 12 August 2016

Accepted 13 August 2016

Available online 13 September 2016

#### Keywords:

Complete labial fusion

Urinary retention

Voiding dysfunction

Acute renal failure

Estrogen

### ABSTRACT

Acute renal failure is characterized by rapidly disruption in kidney function and postrenal causes typically result from obstruction of urinary flow. Multiple etiologies were described for acute renal failure, but labial fusion in postmenopausal female is a quite rarely encountered pathology among postrenal causes. Only a few cases have been presented in postmenopausal women presenting with urinary retention. We present a case with acute renal failure due to complete labial fusion in a postmenopausal woman and its treatment.

© 2016 Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## 1. Introduction

Acute renal failure is one of the most common urological problems. It is characterized by a quick loss of renal function, which develops over hours to days. Problems causing obstruction in the urinary system are considered under the topic of post-renal failure. Different precipitating factors that cause obstruction throughout the ureteral trace, urine bladder tumors, and urethral obstructions consequently leads to post-renal failure [1].

There are multiple well-known etiologies for acute renal failure, but labial fusion in postmenopausal female is a quite rarely encountered pathology among obstructive uropathies and only a few cases have been reported on the association of ARF and labial fusion in the postmenopausal female. Labial fusion is described as the complete or partial adherence of labia minora. It is most commonly seen in prepubertal girls (especially in the first 2 years of life) and rarely older women [2,3]. The etiological factor is an association with low estrogen levels, chronic inflammation/irritation of the vulval skin, lichen sclerosus and absence of sexual activity [4]. Most of the time, clinical presentation of labial fusion is urinary complaints as urinary incontinence, urinary frequency, voiding dysfunction and recurrent urinary tract infections [3,5].

We presented a rare case with acute renal failure due to total labial fusion and successful surgical management of a postmenopausal woman with total labial adhesions.

## 2. Case report

A 92-year-old woman was referred to urogynecologic evaluation for urinary retention for the last 3 days. She described difficulty voiding, urgency, urinary incontinence, urinary tract infection, vaginal pressure, vulvar itching or irritation for the last 4 years. She reported that her urinary symptoms had been progressively worsened over last three months. She gave no history of lichen sclerosus et atrophics. She had been evaluated by gynecology and obstetrics department and treated with topical estrogens therapy for 4 weeks without any improvement or side effects.

On urogynecological examination, the external genitalia revealed an atrophic vulva and fused labia minora at the midline. The fused labia completely covered the vaginal introitus, clitoris, and the external urethral meatus (Fig. 1). Laboratory results were as follows: BUN:68 mg/dL, Cr:5.6 mg/dL, Na:139 mEq/L, K:5.1 mEq/L, CRP:10.7 mg/dl. The patient was hospitalized for further analysis and treatment. On her ultrasonographic examination; localization, parenchyma echogenicity were normal; there was not solid or cystic lesion but moderate pelvocaliectasis in both kidneys. A postvoid bladder scan revealed an elevated residual of 525 ml. Abdominal and pelvic tomography showed normal gynecologic anatomy and there was no extrarenal pathology. With the suspicion of urethral obstruction and post-renal acute renal failure development due to labial fusion, 16 gauge catheter was inserted percutaneously into the bladder under ultrasonography guidance to achieve a suprapubic urine diversion. Renal functions returned to normal levels (BUN was decreased to 21 mg/dL from 68 mg/dL, serum Cr was decreased to 0.9 mg/dL from 5.6 mg/dL) within 4 days. According to result of urine culture antibiotherapy were commenced for a week.

\* Corresponding author at: Şemsipaşa Mahallesi 56. Sokak No: 2 Küçükköy –G.O.Paşa/İSTANBUL.

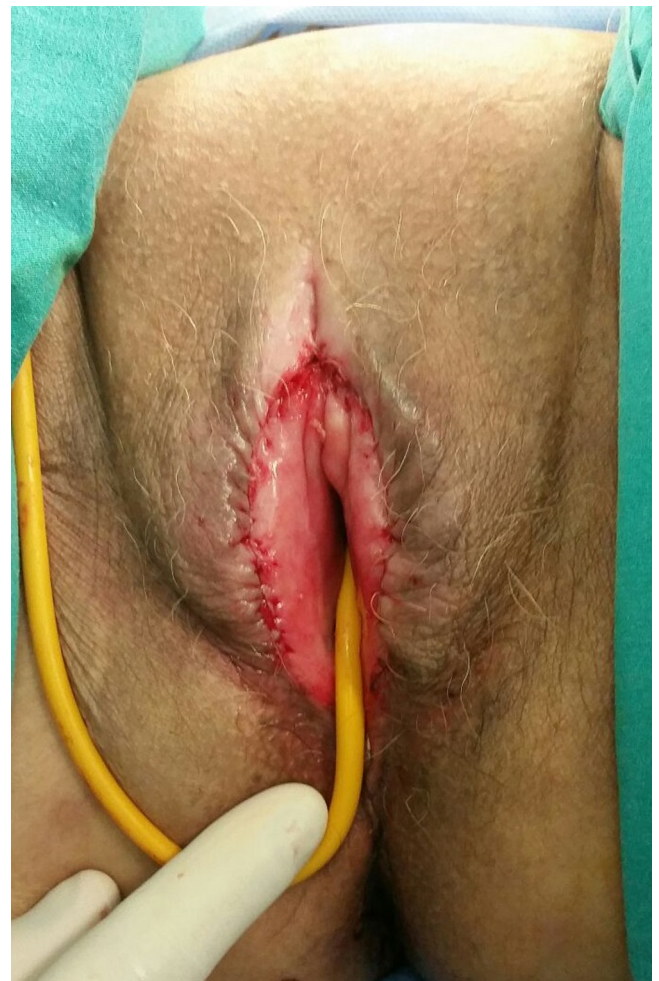
E-mail address: [drsbasaran@gmail.com.tr](mailto:drsbasaran@gmail.com.tr) (S. Başaranoğlu).



**Fig. 1.** Complete labial fusion before surgery and 16 gauge suprapubic urinary catheter to achieve a urine diversion.



**Fig. 2.** Labia separated by sharp dissection after surgery.



**Fig. 3.** Immediate postoperative view; Skin and vaginal mucosa continuously closed in 1 layers (The mucocutaneous border).

The patient was offered surgical treatment. Under general anesthesia, the patient was placed in the dorsal lithotomy position. The adhesive labia was separated by sharp dissection using surgical blade (Fig. 2). There were no anatomical abnormalities in the vaginal canal, cervix and urethral meatus. 3-0 Vicryl rapide stitches were continuously applied to the edges of skin and vaginal mucosa to form contact with each other (Fig. 3). Punch biopsy of the vulvar adhesions was acquired at the time of surgery. Pathology reports showed lichen sclerosis. Patient was discharged with instructions to perform twice daily topical estrogen and steroids (clobetasol 0.05%) to the vaginal introitus for 4 weeks. The patient was seen for postoperative evaluation at 3 months follow-up after surgery. She reported complete resolution of all urinary symptoms and no recurrence of labial fusion was noted (Fig. 4). The postvoid bladder scan revealed a normal residual volume.

### 3. Discussion

Urologic pathologies causing acute postrenal failure typically result from obstruction of urinary flow and the frequency varies among age groups. Prostatic hypertrophy and malignancies are the



Fig. 4. Final appearance after surgery.

most common cause of obstruction in the advanced age groups and vesicoureteral reflux, bladder dysfunction (including neurogenic bladder), and ureteropelvic junction obstructions in the childhood lead to renal disease [1]. Although they are rare, urinary prolapses [1] and labial fusions [2,6] are usually encountered in older women. Most of the published data of labial fusion in the postmenopausal female population are case reports, at the same time symptoms in this literature are with related urinary complaints. Agglutination initially occurs only in the posterior aspect of the labia and urethra is “partially” obstructed. In most advanced cases the urethral and vaginal orifices are “completely” covered by fusion. When the urine cannot freely exit the vagina, it can lead to urinary retention and recurrent urinary tract infections [3]. In addition, serious kidney damage due to urinary obstruction has been reported [2]. Also, postmenopausal females with symptomatic labial fusion present with vulvar pruritis, dyspareunia, urinary incontinence, urinary retention, difficulty in voiding, frequency and dysuria. The etiology of labial adhesions are uncertain. It has been associated with recurrent trauma, vulvovaginitis and inflammation caused by an infection, mechanical irritation, low endogenous estrogen, atopic eczema or lack of intercourse as causative factors [2,4]. An alternative etiology for these adhesions may include vulvar dystrophies such as lichen sclerosis [4]. In this case, biopsy findings showed lichen sclerosis and it seems that the hypoestrogenic state, lichen

sclerosis and lack of intercourse were the main participant for the labial fusion. The first-line management of labial adhesions in the postmenopausal patient is topical estrogen or steroids replacement therapy, although it has not high success rate [5]. When the topical oestrogens therapy failed, labial separation by means of blunt/sharp dissection is required [7]. In our case, local estrogen treatment was not effective and we performed labial separation by blunt dissection. Postoperative topical steroids and estrogen therapy and daily manual separation of the labia can be used to prevent recurrence of the adhesions [7].

In summary, we report a case of postmenopausal woman who presented with labial fusion-related urinary retention and acute renal failure and these adhesions was treated with a combination of surgery and topical steroids and estrogen therapy with complete resolution of the urinary symptoms.

#### Authors contribution

Faruk Doğan and Serdar Başaranoğlu (1)–(3)

(1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data.

(2) drafting the article or revising it critically for important intellectual content.

(3) final approval of the version to be submitted.

#### Conflict of interest

None.

#### References

- [1] V.T. Yılmaz, A.B. Avci, İahin AF, Bozkurt H, Doğan F. Acute renal failure due to uterine prolapse: a case report, *Ren. Fail.* 35 (6) (2013) 879–884.
- [2] J.C. Norbeck, M.R. Ritchey, Bloom DA Labial fusion causing upper urinary tract obstruction, *Urology* 42 (1993) 209–211.
- [3] A. Dirim, E. Hasirci, Labial fusion causing urinary incontinence and recurrent urinary tract infection in a postmenopausal female: a case report, *Int. Urogynecol. J.* 22 (1) (2011) 119–120.
- [4] A. Goker Tamay, M. Adiyek, Y. Yildirim, et al., Idiopathic labial fusion in a young adult: a case report, *Anatol. J. Obstet. Gynecol.* 2 (2010) 1–2.
- [5] J.Q. Pulvino, M.K. Flynn, G.M. Buchsbaum, Urinary incontinence secondary to severe labial agglutination, *Int. Urogynecol. J.* 19 (2) (2008) 253–256.
- [6] M. Saito, G. Ishida, N. Watanabe, B. Abe, Micturitional disturbances due to labial adhesion, *Urol. Int.* 61 (1) (1998) 50–51.
- [7] L. Mayoglou, L. Dulabon, N. Martin-Alguacil, et al., Success of treatment modalities for labial fusion: a retrospective evaluation of topical and surgical treatments, *J. Pediatr. Adolesc. Gynecol.* 22 (4) (2009) 247–250.

#### Open Access

This article is published Open Access at [sciedirect.com](http://sciedirect.com). It is distributed under the [IJSCR Supplemental terms and conditions](#), which permits unrestricted non commercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.