

## Postmenopausal complete labial fusion and pseudo-incontinence: A case series

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### ABSTRACT

**Introduction:** Postmenopausal labial fusion constitutes a severe form of genitourinary syndrome of menopause. This report describes the management of a series of women with complete labial fusion (CLF) and pseudo-incontinence.

**Methods:** This is a seven-year retrospective chart review in a urogynaecology unit of a tertiary hospital of all who patients presented with CLF and lower urinary tract symptoms, predominantly continuous urinary incontinence. All patients had a standardized surgical intervention and were followed up in the outpatient department.

**Results:** Seven patients (mean age  $72.9 \pm 12.1$  years) with CLF and associated pseudo-incontinence were identified from the hospital archives. All patients had an uneventful surgical restoration of the labial anatomy, the pseudo-incontinence had resolved immediately postoperatively in all cases, and no recurrence of the labial agglutination had occurred after an average follow-up of 2.4 years.

**Conclusions:** In this report we present a case series of seven postmenopausal patients with CLF and urinary pseudo-incontinence who underwent successful surgical management with good anatomical results and complete resolution of urinary symptoms.

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## 1. Introduction

The genitourinary syndrome of menopause (GSM) consists of symptoms involving the vulva, the vagina or the lower urinary tract; these symptoms are mainly caused by the decline in estrogen levels with ageing [1]. The partial or complete adherence of the labia minora towards the midline is described in the literature as labial fusion, vulvar fusion, synechia of the labia minora, adhesions, or agglutination or conglutination of the labia minora [2]. Postmenopausal labial fusion constitutes a severe form of GSM. In severe cases, the labia minora are completely attached to each other at the midline and no opening at the level of the introitus can be found on clinical examination; this is termed complete labial fusion (CLF) [3].

CLF has been linked to a condition described as pseudo-incontinence [4–6]. Women with pseudo-incontinence complain of continual dribbling of urine that cannot be classified either as stress urinary incontinence (SUI) or as urge urinary incontinence (UUI). In the literature, remission of pseudo-incontinence is clearly demonstrated after the correction of the CLF [4–7].

The aim of the study is to describe the management of a series of women with CLF and pseudo-incontinence.

## 2. Method

This is a seven-year retrospective chart review of women who were diagnosed with CLF and pseudo-incontinence in a urogynaecology unit of a tertiary hospital. Ethical committee approval for reporting the case series was not required as routinely collected data were analysed. However, written permission to report anonymized data and to use any photographic material was appropriately sought and received from all the patients.

Inclusion criteria were: (a) CLF, (b) menopausal status, and (c) Greek-speaker. Exclusion criteria were: (a) previous vaginal reconstructive surgery, (b) history of malignancy in the pelvis and/or pelvic radiation treatment.

Demographic details and medical, surgical and social history were obtained from the medical files. The presenting symptoms and the findings from the initial clinical examination were obtained from the outpatient notes. All women had a routine urogynaecological history taken and a standard urogynaecological examination to elicit urinary incontinence with the cough test and to stage any prolapse with the use of a pelvic organ prolapse quantification (POP-Q) system. Post-void residual (PVR) was measured with abdominal ultrasound. A three-day bladder diary was completed and the number of pads used per day was self-reported. The details of the surgical interventions were taken from the electronic files of the patients. Patients were followed up three weeks

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after the operation and again after two months, and thereafter were seen yearly.

### 2.1. Surgical Intervention

The patient was placed in a lithotomy position and had regional anaesthesia or intravenous sedation. After cleansing and draping, local infiltration with lignocaine was performed in the area of the agglutinated labia. An initial attempt at manual separation of the labia minora was performed by applying traction in a lateral direction with both index fingers upon the agglutinated labia minora. If this was successful, further opening of the introitus was performed, with the fingers of the surgeon inserted into the vagina in order to separate as widely as possible the agglutinated tissues. If the initial manual separation was unsuccessful, the surgeon identified the opening of the midline raphe, inserted a mosquito forceps therein, and gradually distended the opening. The external orifice was identified and a number Foley catheter was then inserted. A surgical incision was made and a 'U'-shaped flap of the labia minora was removed that included the scarred tissue. Separate sutures (Vicryl 2.0) were used to approximate the edges of the trauma. A ribbon gauge was inserted into the vagina. Peri-operative second-generation cephalosporins and simple analgesics were administered.

### 2.2. Postoperative Care

Postoperative care comprised: immediate discharge on painkillers; a three-day course of an oral cephalosporin; removal of the ribbon gauge and the indwelling catheter after 48 h; continuous per vagina local estrogens for six months, initially every day for three weeks and then twice weekly; proper hygiene of the genital area; initial postoperative follow-up after three weeks.

### 2.3. Statistics

All available data were recorded on a Microsoft Excel spreadsheet. Means and standard deviations (SD) were calculated. Because of the small number of women in the analysis, no statistical comparisons were performed.

## 3. Results

Seven patients with CLF and associated pseudo-incontinence were identified from the hospital archives. Their mean age was  $72.9 \pm 12.1$  years (range 50–86); all of them were postmenopausal and had a history of vaginal deliveries (mean parity  $2.0 \pm 0.8$  deliveries) (Table 1). No patient had previous reconstructive vaginal surgery or malignancy of the genitalia. All women reported sexual abstinence. The main presenting symptom was severe urinary incontinence, although one patient complained of severe pruritus at the genitalia (patient 1).

All seven women underwent a physical examination and in all cases there was prominent atrophy of the genitalia, no identification of the introitus due to agglutination of the labia minora (see Fig. 1), and vulvar dermatitis due to the incontinence and the constant use of wet pads. At cough test, no urinary leakage could be identified due to the obstruction of the introitus that was covering the external urethral meatus. No patient had a PVR >50 ml. Quantification of the pelvic organ prolapse (POP-Q) proved impossible in all cases. The three-day bladder diaries indicated no clear voiding pattern and there was reduced urinary output.

A senior gynaecologist performed all the procedures as described above. A surgical restoration of the introitus along with removal of the scarred labial tissue was performed in all patients (Fig. 2). No significant changes were made to the procedure outlined above. There were no intraoperative complications. Blood loss was <50 ml on average. All patients were discharged with the indwelling urinary catheter and were re-examined after 48 h for catheter and gauge removal and evaluation of the traumatic area. Minimal analgesia was required; no patient required analgesics stronger than paracetamol in normal doses.

At the three-week postoperative evaluation, an uneventful healing process was noted for all patients, and there were no complications and no recurrence of the labial agglutination. The continual urinary dribbling had stopped immediately after the removal of the indwelling catheter. Urgency without urge incontinence and nocturia were present in five out of seven cases (patients 1, 3, 4, 5, 7). One patient did have stress urinary incontinence (positive cough stress test) (patient 3). There was no case of malignancy or lichen disease in the pathology specimens. All women were encouraged to use topical estrogens, and the youngest woman (aged 50 years) was encouraged to engage in vaginal intercourse (patient 2).

Mean long-term follow-up was 2.4 years (<0.5 to 6 years). There was no recurrence of labial agglutination. The urinary urgency continued in the same five patients and they were treated with anticholinergics. Patient 3 still had stress urinary incontinence but she did not ask for further treatment. No case of POP developed during the follow-up. Apart from the younger woman (patient 2), no other patient adhered to the use of a long-term topical estrogen treatment.

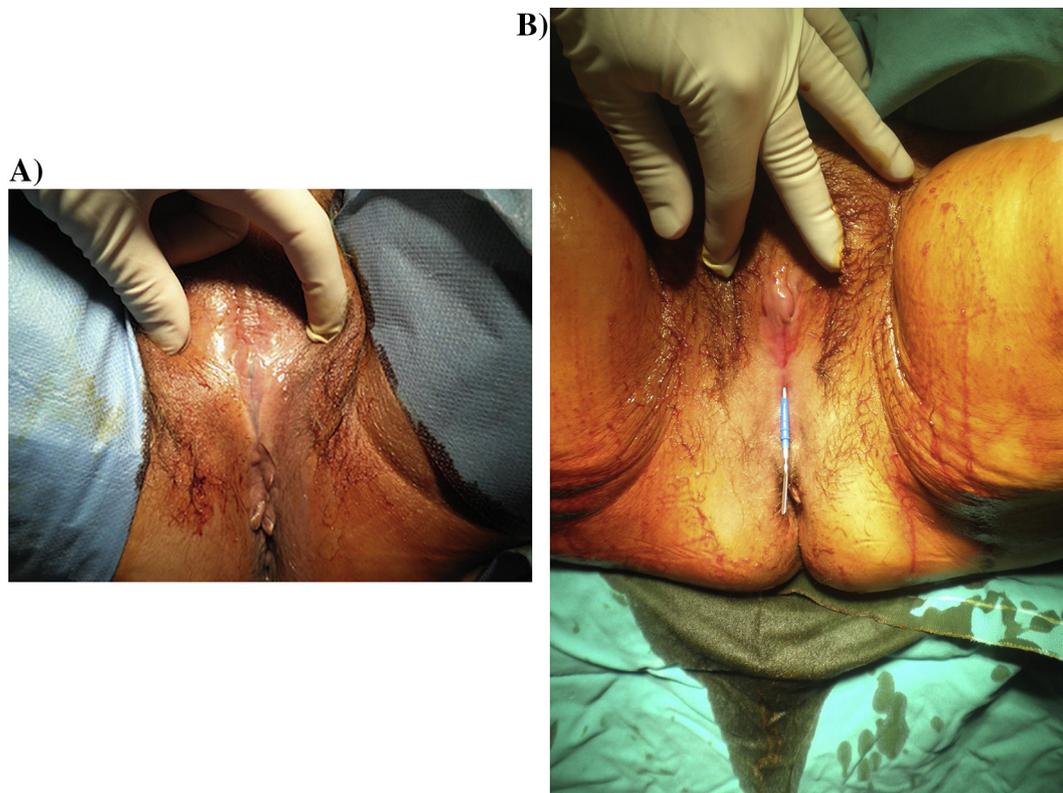
## 4. Discussion

To our knowledge, this is the largest reported case series of postmenopausal women with complete labial fusion and pseudo-incontinence. Along with the bulk of the symptoms of GSM, we consider that labial fusion is a similarly under-reported condition that probably occurs more frequently than clinicians think. The fact that in all seven cases the lower urinary tract symptoms immediately resolved after the surgical intervention appears to be very important. This serves as evidence that the adhesions play a decisive role in the aetiopathogenesis of incontinence in these cases.

**Table 1**  
Complete labial fusion and pseudo-incontinence. Patients' characteristics and post-operative details.

Patient	Age (years)	Parity	Length of symptoms (months)	Sexually active	Main presenting symptoms		Surgery	Malignancy	Follow-up (years)	Postoperative treatment and symptoms				
					Incontinence	Pruritus				E	SUI	OAB	POP	Pruritus
1	72	2	6	–	+	+	+	–	6	–	–	+	–	+
2	50	1	8	–	+	–	+	–	4	+	–	–	–	–
3	80	3	6	–	+	–	+	–	3	–	+	+	–	–
4	66	1	9	–	+	–	+	–	3	–	–	+	–	–
5	74	2	15	–	+	–	+	–	1	–	–	+	–	–
6	86	3	12	–	+	–	+	–	0	–	–	–	–	–
7	82	2	9	–	+	–	+	–	0	–	–	+	–	–
Mean	$72.9 \pm 12.1$	$2.0 \pm 0.8$	$9.3 \pm 3.2$	–	+	–	+	–	$2.4 \pm 2.2$	–	–	+	–	–

E = estrogen treatment, SUI = stress urinary incontinence, OAB = overactive bladder, POP = pelvic organ prolapse.



**Fig. 1.** Postmenopausal complete labial fusion. (a) The patient in lithotomy position prior to surgical separation of the agglutinated labia (patient 7). (b) A pinhole opening is seen caudally on the labial raphe close to the fourchette – a 24F vessel catheter has been introduced to indicate this point (patient 4).

In the literature, conservative treatment is recommended for patients of postmenopausal age with partial labial fusion, and only if this fails is surgical treatment recommended [2,7]. It appears that when treating the initial stages of partial labial fusion, the conservative approach could be a reasonable option. The initial approach includes local treatment with estrogen and/or steroids, aiming to arrest further agglutination of the labia minora and to restore anatomy [6]. There are no guidelines on the length of the conservative treatment, and therefore the attending physician should mainly rely on clinical findings. However, there are no reports of the successful conservative (non-surgical) treatment of CLF in a postmenopausal patient. In a previously published review, a time limit of two months was recommended for conservative treatment, and surgical separation was recommended where adhesions or urinary symptoms persisted [2].

In our case series, no recurrence had occurred after a mean follow-up of 2.4 years. We propose the 'U'-shaped excision of the agglutinated tissue of the labia minora because (a) the extended removal of the affected labial skin reduces the possibility of re-agglutination, (b) the tissue can be examined histologically to exclude malignancy, and (c) an adequate restoration of the introitus could facilitate sexual intercourse for younger patients. A sharp knife or diathermy can be used for initial excision, and infiltration with local anaesthetic assists in postoperative pain control.

#### 4.1. Advantages & Disadvantages of the Study

The main advantage of this study is the report of a series of patients with a rare benign gynaecological condition who had a standardized surgical approach and then a medium-term uniform follow-up regarding complications and recurrence of labial fusion. There is only one previously published report – a series of five patients with labial fusion [6]. However, the retrospective design of the current study is a limitation for the generalization of the results.

## 5. Conclusion

We present a case series of seven postmenopausal patients with complete labial fusion and urinary pseudo-incontinence who underwent successful surgical management with good anatomical results and complete resolution of urinary symptoms. The frequency of this condition cannot be accurately ascertained in this specific age group, although labial fusion may be an under-reported sequela of the menopause.

## Contributors

T Mikos was responsible for project development, clinical follow-up, data collection, and the writing of the manuscript.

M Lioupis was responsible for data collection and writing of the manuscript.

GF Grimbizis was responsible for data analysis and writing and editing of the manuscript.

## Conflict of Interest

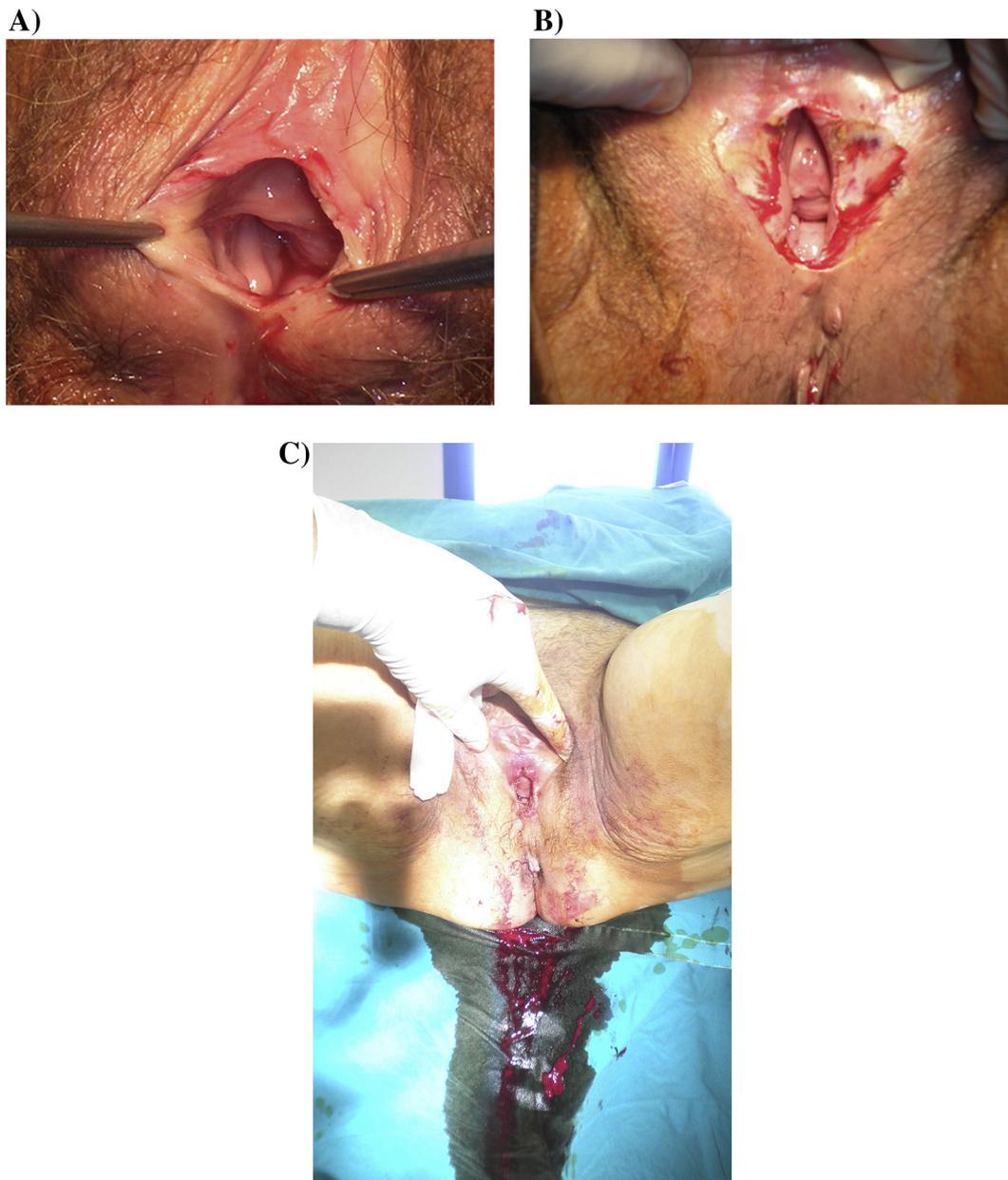
There are no conflicts of interest, sources of financial support, corporate involvement, or patent holdings for any author of this material.

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## Ethical Approval

This report includes analysis of routinely collected data, and so ethical committee approval for reporting the case series was not required.



**Fig. 2.** Surgical separation of postmenopausal complete labial fusion. (a) The appearance of the separated labia minora after digital blunt separation by lateral traction using the index fingers (patient 7). (b) The appearance of the separated labia minora after a 'U'-shaped excision of the agglutinated tissues. The excision has been performed using cautery (patient 7). (c) The final appearance of the genitalia at the end of the procedure. Polyglactin sutures have been used to approximate the edges of the labial trauma (patient 4).

### Patient Consent

Written informed consent was obtained from all the patients for publication of these cases and the accompanying images.

### Provenance and Peer Review

This case series was peer reviewed.

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