

which is entirely inconsistent with its current categorisation [5]. There was no clear distinction between superficial or deep disease, and there was an absence of further descriptors of location of peritoneal lesions such as the Pouch of Douglas, uterosacral ligaments, and the pelvic side wall. Peritoneal pockets were not included, nor disease affecting the bladder or ureters. Ovarian disease was not subclassified into endometrioma or superficial disease overlying the ovarian cortex, and there was no facility to reflect unilateral or bilateral disease. Furthermore, there was no specific classification for more unusual presentations, such as thoracic endometriosis and endometriosis lesions within the CNS, making estimates of prevalence challenging.

Following a consensus meeting held on 14 March 2018, we have worked closely together, following rigorous pre- and post-meeting processes, and have developed a proposal for a new ICD systematic classification of endometriosis (see [Supplementary file](#)). We believe that our proposal is both logical, inclusive of all phenotypes, and allows accurate description of anatomical distribution, within the confines of the ICD coding system. It includes specific classification of superficial and deep disease, and extended options for describing distribution. In addition, it offers structured classification of extra-abdominal lesions, particularly within the thorax, abdominal wall, central/peripheral nervous systems. ICD coding does not facilitate further description with respect to size of lesions or extent of adhesions, and so this system may have some limitations with regard to linking fertility outcomes with endometrioma size, nor can it be used to calculate Enzian or r-ASRM scores.

We submitted our proposal to WHO in June 2018 and believe that our proposed ICD classification system will facilitate the diagnostic process and lead to improved tailoring of treatments and more accurate epidemiological data.

Disclosure of interests

Lucy H.R. Whitaker has received travel funding from Ethicon. Lone Hummelshoj has served as a consultant for AbbVie. Stacey A. Missmer has received research support from the NIH, AbbVie and the Marriott Family Foundations, and has served as a consultant for AbbVie and Celmatix. Lucky Saraswat has received research support from the National Institute for Health Research and Chief Scientist Office for endometriosis research. Ertan Saridogan received honoraria from Olympus UK, Gedeon Richter and Hologic. Carla Tomassetti has received research support from FWO Flanders, Ferring and Merck, and has served as a consultant for Gedeon Richter and Nordic Pharma. Andrew W. Horne has received research support from the MRC, NIHR, CSO, Wellbeing of Women, Roche Diagnostics, Astra Zeneca and Ferring, and has served as a consultant for AbbVie, Roche Diagnostics, Ferring and Nordic Pharma. Dominic Byrne and Carla Tomassetti have no conflicts of interest.

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Contribution to authorship

The project was coordinated by Lucy H.R. Whitaker. All other authors contributed equally to the project and the correspondence.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.ejogrb.2019.08.015>.

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Lucy H.R. Whitaker
Clinical Lecturer, UK

Dominic Byrne
Endopelvic Surgeon, UK

Lone Hummelshoj
Endometriosis Advocate, UK

Stacey A. Missmer
Scientist Academic, USA

Lucky Saraswat
Endopelvic Surgeon, UK

Ertan Saridogan
Endopelvic Surgeon, UK

Carla Tomassetti
Endopelvic Surgeon, Reproductive Endocrinologist, Belgium

Andrew W. Horne*
Clinical Academic, UK

* Corresponding author at: MRC Centre for Reproductive Health, University of Edinburgh, Queen's Medical Research Institute, 47 Little France Crescent, Edinburgh, EH16 4TJ, UK.
E-mail address: Andrew.horne@ed.ac.uk (A. Horne).

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Unilateral superficial external pudendal artery (SEPA) propeller perforator flap (PPF) for vulvar reconstruction after cancer treatment



Dear Editor,

We found that this case of vulvar reconstruction after wide resection for gynecological cancer was of particular interest thanks to the use of the uncommonly described superficial external pudendal artery (SEPA) propeller perforator flap (PPF), and to its particularly good aesthetic and functional outcomes.

Vulvar reconstruction in this context is a real challenge because of difficult healing due to moderated skin laxity, contamination by perineal secretions, and frequent history of neoadjuvant radiotherapy. That's why surgeons have to use reliable techniques such

as healing by secondary intention, thin skin grafting, or flaps, which are often the only viable option after radiotherapy to offer patients the best outcomes, as well as a good quality of life [1]. It seems that fasciocutaneous flaps (anterolateral thigh (ALT), pudendal thigh, deep inferior epigastric perforator (DIEP), Mc Gregor's inguinal cutaneous, Rubens) are to be preferred over V-Y flaps based on unidentified non-movable perforating vessels because of less scarring, or musculocutaneous ones (gracilis, Taylor) because of less morbidity and functional sequelae. The propeller perforator ones (PPF) rely on local vascular network including the rarely described external pudendal artery as reported in our case.

A 74-year-old woman with a medical history of diabetes, high blood pressure, and chronic renal insufficiency was diagnosed with a 7 cm invasive squamous cell carcinoma of the lower vagina invading the clitoris, the anterior part of the left labia minora, the anterior perineal muscles, and the lower urethra. Pretherapeutic workup by MRI and PET/CT confirmed a FIGO II locally advanced unresectable vulvar carcinoma without any lymph node involvement. Since she was unsuitable for primary surgical approach, she first underwent an effective concurrent chemoradiation therapy (CCRT) with carboplatine associated to radiotherapy fields (50 Gy) targeting the lower vagina, as well as the groin inguinal and common and external iliac lymph nodes bilaterally, before undergoing an anterior partial vulvectomy removing the 3 cm remaining peri-clitoridian tumor. Direct closure ended in a 5 x 8 cm wound dehiscence 3 weeks postoperatively with paravaginal fistula and pubic bone frame exposure that did not heal after 2 months of negative-pressure wound therapy.

Thanks to the mapping of all the perforators in this area including the external pudendal artery ones (Fig. 1A) by preoperative handheld doppler (8 MHz), we consequently decided to perform a local SEPA PPF to fill-in the defect. Perforator vessels were skeletonized by subfascial muscle dissection. A 13 x 7 cm elliptical flap was dissected under the fascia from distal to proximal on the outside of the vessels (Fig. 1B), and then rotated by 180°

along its vascular axis, before direct closure of the donor site without tension. After placing a suction drain, flap was sutured by separate non absorbable 3/0 stitches (Ethilon, Ethicon®) (Fig. 1C). Postoperative venous congestion of the distal tip was efficiently treated with leeches therapy, since it is the standard of care in our department. However, alternative common venous salvage techniques such as local subcutaneous injection of low molecular-weight heparin (LMWH) or the use of topical nitroglycerin paste could also have been used with the same efficiency. The patient is currently cicatrized (Fig. 1D), still in good health 3 years post-surgery, and very satisfied with the functional and aesthetic outcomes.

Hence, SEPA flaps seem to be a relevant option as alternative treatment for vulvar reconstruction post-neoadjuvant radiotherapy since it is quickly harvested before direct closure of the close unilateral donor site and gives a thin but robust coverage. On the contrary, donor sites of alternative ALT, DIEP, or Rubens perforator flaps are not close enough and the intramuscular dissection of their perforator vessels is laborious. Besides, the thin thickness of some of these perforator flaps (especially the SEPA, pudendal thigh, and Rubens' PPF) particularly fits anterior vulvar defects, unlike musculocutaneous ones, like Gracilis only allowing posterior defect coverage, or rectus abdominis being at high risk of postoperative evisceration.

Several algorithms for vulvar reconstruction have already been described [2,3]. However, the earliest SEPA from Allan R. Mayer [4] needs a large abdominal sacrifice and has restricted mobility due to non-skeletonization of vessels, and the VY ones don't fit this anterior area. Finally, extra-thin AF.Phoon's flap especially described in male patients [5] or the thin pudendal thigh one are both based on precarious donor sites, since it is respectively either the previously resected or radiated labia majora or the medial skin of the inner thigh that is also closer to the radiation or resection areas and offers less laxity, especially to fill an anterior vulvar defect. Hence, our SEPA PPF is a reliable and safe alternative for vulvar reconstruction that broadens the therapeutic arsenal for

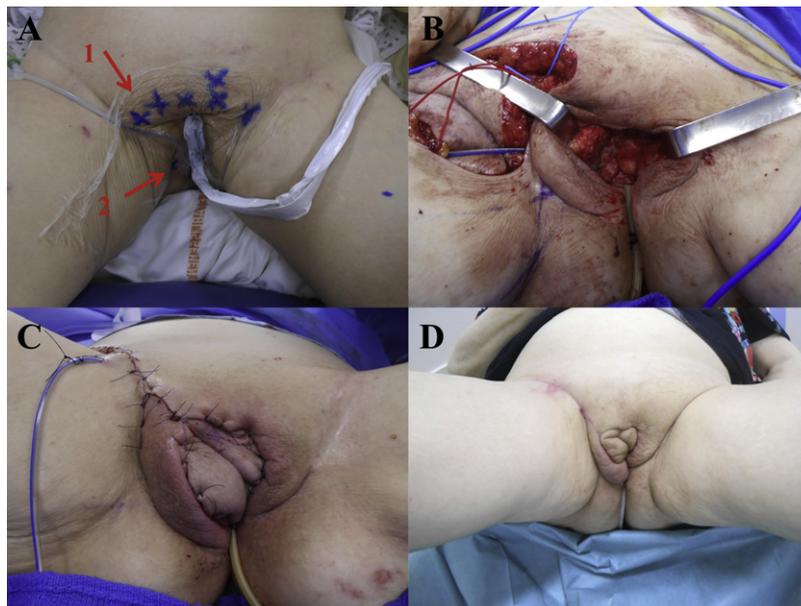


Fig. 1. Unilateral superficial external pudendal artery (SEPA) propeller perforator flap for vulvar reconstruction. **A**-Preoperative mapping of perforator vessels. 1- Perforator originating from the external pudendal artery located on the inside of the femoral vessels (unlike the superficial circumflex iliac perforator (SCIP) propeller flap). 2- Perforator originating from the internal pudendal artery. **B**-Peroperative view showing the elliptical flap harvested in the inguinal area of the right high inner thigh, and the external pudendal artery perforator skeletonized. **C**-Final peroperative view after donor site direct closure and flap suture by separate non absorbable 3/0 stitches. **D**- 3 months postoperative outcome.

surgeons if the conventional flaps are not reliable options or already failed.

Declaration of Competing Interest

No conflict of interest to declare.

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Susie Brousse^{a,b,*}

Marine Joste^{a,b}

^aDepartment of Obstetrics and Gynecology, Hôpital Sud, Rennes, France

^bDepartment of Plastic, Reconstructive, and Aesthetic Surgery, Hôpital Sud, Rennes, France

Franck Marie Leclère

Department of Plastic, Reconstructive, and Aesthetic Surgery, Centre Hospitalier Universitaire de Poitiers, Poitiers, France

Vincent Lavoué

Department of Obstetrics and Gynecology, Hôpital Sud, Rennes, France

Nicolas Bertheuil

Department of Plastic, Reconstructive, and Aesthetic Surgery, Hôpital Sud, Rennes, France

* Corresponding author at: Department of Obstetrics and Gynecology, Hôpital Sud, 16, Boulevard de Bulgarie, Rennes, 35200, France.

E-mail address: susie.brousse@gmail.com (S. Brousse).

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High maternal age at first and subsequent child births in Denmark in the mid-1800s—Letter to the editor



Dear Editor,

It is often assumed that a main reason for current widespread infertility and low fertility rates in Western countries is that couples postpone family formation [1]. However, we have previously shown that more than a century ago high average maternal age was not a limiting factor for achieving total fertility rates way above replacement level [2]. So, is the age when initiating childbearing the limiting factor? In this study we utilize

unique historical data from Danish archives to assess average age at first childbirth in the mid-1800s where fertility was high.

In 1824 a law was introduced in Denmark prohibiting marriage until being able to financially support your family with the consequence that women became older when they married and had children. In most parts of the Danish island, Bornholm, the mother's age at childbirth was registered in the church records from 1851, enabling this study where Bornholm served as a “miniature Denmark” as demographics, size of shires and their population mimicked the rest of the country. Besides a peninsula, Denmark consists of many islands of which approximately 150 were inhabited in the mid-1800s and with Bornholm being among the larger of them. One parish from each of the four shires on Bornholm was selected for data collection based on the parish being among the largest in the shire and including a mixed population of farmers, landless people and fishermen. For many people, especially amongst those with a lower income, moving around was necessary at this time, but in Bornholm they were more easily followed in the records than elsewhere in the country as people may often change parish but more rarely moved from the island. Thus, the mothers could be found in several comparative records throughout the island to obtain information on marriage and childbirth. Names and ages at birth were transcribed from period church records by experts. Besides church records, the mothers were followed in the Danish censuses, in the archives' database of births in Bornholm from 1814 and in probate records books. Both dead and live births (but not abortions) were included to avoid a bias due to the large decrease in still births. In the four selected parishes, we observed 1179 births in 1851 to 1855 (material A), of which 360 were the first birth, and the average age at all births and first birth was calculated and results compared to more recent data from Statistics Denmark covering the whole country (material B) [3].

The study reveals an average age of 32.1 years (median: 32.0 years) for women giving birth in the mid-1800s, which is slightly higher than the average age of 31.0 years of Danish women giving birth in 2018. However, also the age at first birth was almost as high in the historic data, 27.9 years (median: 27.0 years), as today (29.3 years), and much higher than the average of 22.9 years observed in the beginning of the 1960's, where we have the first publicly available data for age at first birth in Denmark (Fig. 1). Thus, the historic curve for maternal age at delivery is U-shaped illustrating that high maternal age at first birth is not *per se* a limitation for high fertility. Sub-analyses showed only minor variations in the average age between the included parishes with a difference below one year across the four parishes for both first birth and all births. Furthermore, test samples from single years through the 1800s in both Bornholm as well as from the Danish peninsula of Jutland and the larger island Zealand showed a similar pattern of high maternal age. The behavioral impact of the law restricting marriage was clear as maternal age was generally lower among unmarried than married women.

While based on data from a five-year period only in a single Danish island we present unexpected historical findings of high maternal age for women delivering their first child in 1851–55. This raises the questions: Why is it often not possible today for women in their thirties to get the number of children they desire without the use of assisted reproductive techniques? And why was this possible more than a century ago despite the structural influence on timing of marriage and family formation resulting in an only slightly lower age at first childbirth compared to today? Although we clearly acknowledge the impact of socioeconomic factors such as high maternal age for fertility rates we submit the hypothesis that impact of environmental factors of our modern societies may play a role for the biological fertility potential, and that increasing male reproductive problems in combination with