



The role of routine histopathology after chest-contouring surgery in transmen



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Dear Editor,

We have read with interest the review of Stone and colleagues on breast cancer incidence in female-to-male (FTM) transgender patients, henceforth considered as transmen [1]. The currently available literature was analysed, which identified seventeen transmen with breast cancer. The analysis pointed out the limitations of these reports concerning the presentation and extent of disease, the incidence of loco-regional and distant metastases, the potentially adverse effects of cross-sex hormonal treatment and the challenges of general management of breast cancer in transmen. Stone et al. discerned three patients with breast cancer diagnosis upon routine histopathological examination of mastectomy specimens after gender-confirming surgery [1]. We would like to emphasize the role of the histopathologist in incidental breast cancer diagnosis in these patients. Furthermore, we would like to accentuate the biological and oncological differences between incidentally diagnosed cancers at the time of mastectomy and cancers that developed many years after chest-contouring surgery.

Although not all transmen wish to undergo gender-confirming surgery, the number of individuals seeking for chest-contouring surgery has increased in recent years [2]. Androgen treatment is often used to induce virilisation. Breast cancers diagnosed years after chest-contouring surgery developed in remaining mammary gland tissue with prolonged exposure to exogenous androgens. On the contrary, incidentally diagnosed breast cancers at the time of surgery developed in mammary gland tissue with considerable shorter exposure to exogenous androgens. Differences in androgen exposure might result in different tumour biology. However, the currently reported number of transmen with breast cancer is too low to investigate potential biological differences in depth.

From a pathologist's and surgeon's perspective, the largest difference between these two scenarios concerns the completeness of resection. When the surgeon knows in advance that a neoplasm is present, the oncologic resection specimen will be carefully

orientated to allow for thorough examination of the resection margin status by the histopathologist. We assume the risk of positive margins, defined as ink on tumour [2], is significantly larger for oncologic resections performed after chest-contouring surgery, as there is generally only little remaining breast tissue left. Remaining mammary gland tissue can still be present in the axillary region, below the former inframammary folds and even beyond the fascia, in the major pectoralis muscles. Therefore, the surgeon will have to find a delicate balance between complete tumour removal with sufficiently broad tumour-free margins and the “best-as-possible” cosmetic outcome. We assume the risk for positive margins is lower in patients with an incidental breast cancer diagnosis, since we expect the tissue volume of mastectomy specimens to be substantially higher than the volume of oncologic specimens of an already contoured chest wall [2].

Stone and colleagues conjecture the use of routine histopathological examination of FTM mastectomy specimens [1]. We strongly support their proposal, as currently available evidence suggests a breast cancer incidence of approximately 0.3–0.5% in transmen at the time of chest-contouring surgery. To our knowledge, the value of routine histopathology has been investigated in only five series of patients at present. Kuroda et al. investigated a cohort of 186 transmen, wherein one mastectomy specimen contained incidental ductal carcinoma in situ [3]. Similar findings were reported by Torous and Schnitt, who observed one case of high-grade ductal carcinoma in situ in a series of 148 transmen [4]. Grynberg and co-workers did not observe in situ or invasive carcinoma upon examination of 100 FTM mastectomy specimens [5]. East and colleagues examined 67 FTM mastectomy specimens, wherein one case of flat epithelial atypia was identified, without in situ or invasive carcinoma [6]. Van Renterghem et al. reported the largest series to date, comprising 344 transmen, among whom two invasive breast cancers of no special type were identified in a 31-year-old and a 52-year-old [2]. We therefore conclude that incidental invasive breast cancer upon chest-contouring surgery is rare. However, its existence with potentially important clinical consequences warrants careful macroscopic and microscopic examination of mastectomy specimens in transmen [2]. Additionally, examination of these tumours and mammary gland tissues may provide new insights on the effects of exogenous androgens on breast tumour biology.

In conclusion, we recommend thorough routine histopathological examination of all mastectomy specimens after chest-contouring gender-confirming surgery in transmen, in order to discover incidental breast cancers with potentially clinically relevant consequences.

Conflicts of interest

None to declare.

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