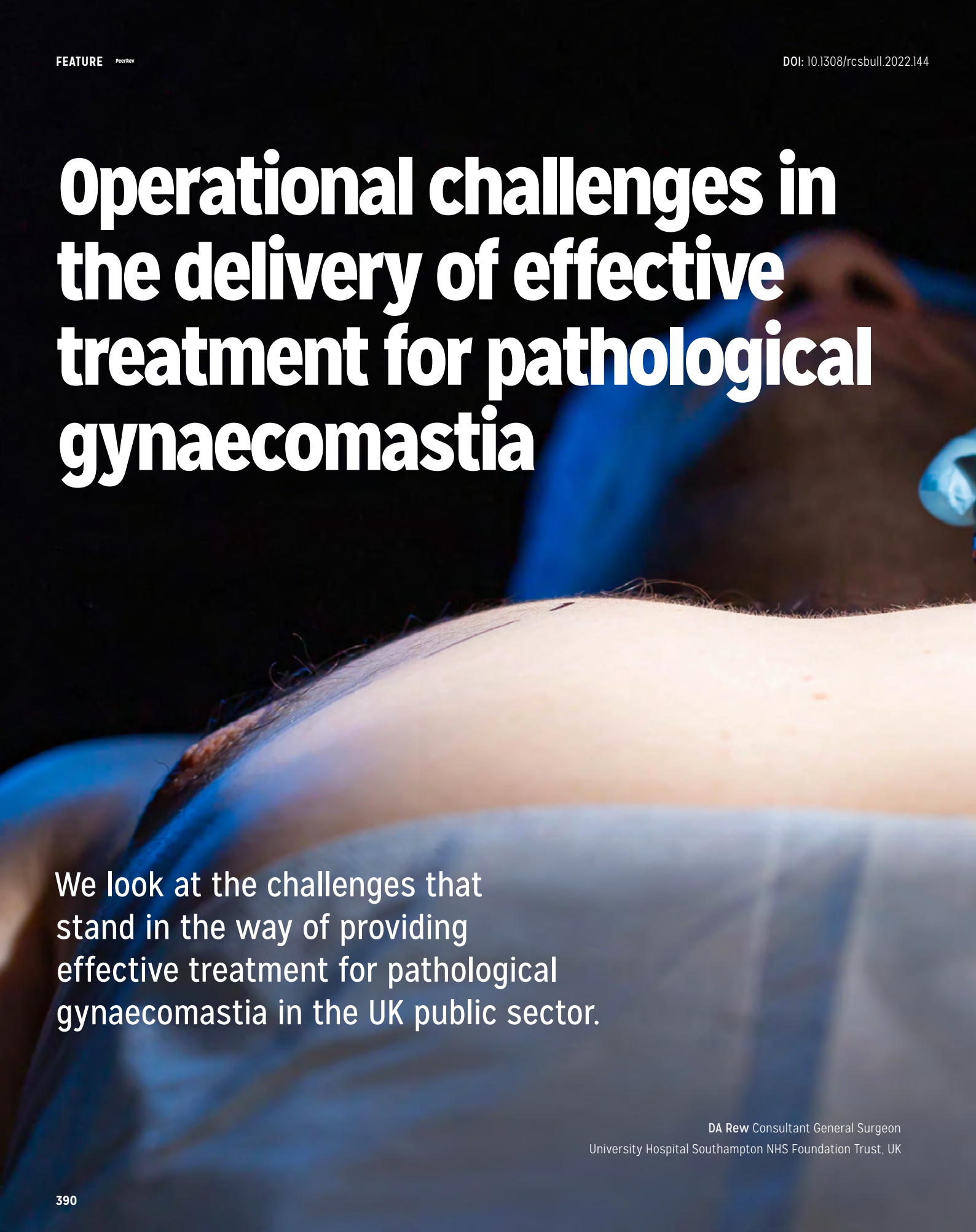
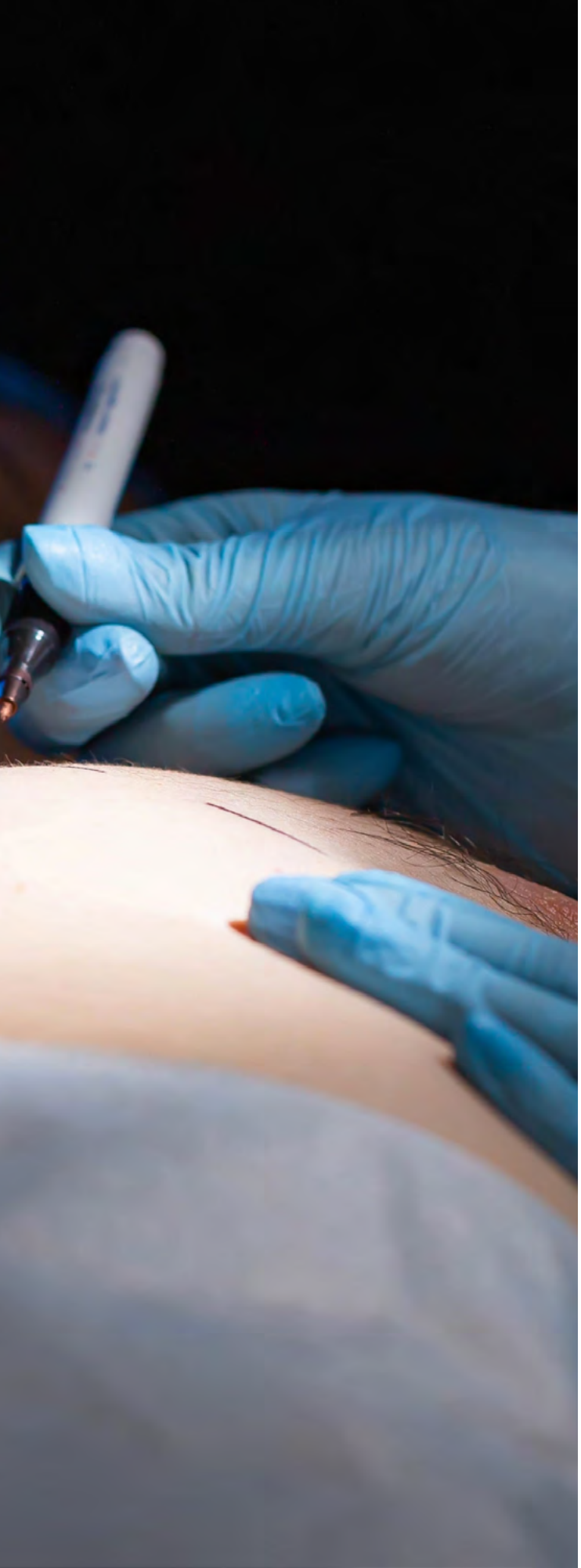
DOI: 10.1308/rcsbull.2022.144

Operational challenges in the delivery of effective treatment for pathological gynaecomastia



We look at the challenges that stand in the way of providing effective treatment for pathological gynaecomastia in the UK public sector.

DA Rew Consultant General Surgeon
University Hospital Southampton NHS Foundation Trust, UK



More than a decade ago, health policymakers considered a wide range of surgical procedures to be inappropriate for funding by the resource constrained NHS as they were deemed to be unnecessary, frivolous or cosmetic. These procedures included operations in many disciplines such as varicose vein surgery, 'lifestyle' hysterectomies, tattoo removal, various orthopaedic procedures and a range of breast operations. The latter included cosmetic breast augmentation and breast reduction, removal of breast implants, surgery for fibroadenomas and surgery for gynaecomastia.

The principles behind these broadly stated policies were worthy and supportable, and indeed, they have led to a substantial overall reduction in such surgery across the NHS. However, the labelling of a wide range of conditions as 'cosmetic' overly simplifies the complexities of the pathologies and personal circumstances that still mean that patients in these categories are referred to NHS clinics in large numbers.

Moreover, the original policy documents, the evidence base and the constitution of the advisory boards who formulated these policies are lost in time and space, and cannot be readily accessed through a public internet search. This leads to a host of individual public sector web links and regional variants on the theme of what is and what is not covered by policy by various public health providers. It is also wholly unclear what enforcement measures exist behind these policies, where in the operational hierarchy the responsibility lies and what the differences in levels of compliance are from one public service provider to another.

NHS consultant surgeons have a contractual obligation to do their best for patients in the prevailing circumstances, with their experience and knowledge base. The reasonable assumption of hospital specialists will have been that the controls to the entry of such patients into the hospital systems lie with primary care providers and GPs as the gatekeepers of NHS funding.

Furthermore, these controls have passed from general practitioner (GP) fundholders to the primary care trusts, which were set up by the Labour government in 2001, and to their successors, the clinical commissioning groups (CCGs), which were established by the Conservative–Liberal Democrat coalition government through the Health and Social Care Act in 2012. The evolution of the ownership and supervision of these policies through a long period of organisational churn is also unclear, and it has not been made any easier through the major disruption of the COVID-19 pandemic.

For patients who reach hospital with conditions in these broad 'cosmetic categories', most surgeons will reasonably assume that the funding is managed at the CCG/GP interface with the trust finance and administrative teams. Clinicians well understand the ongoing requirement for individual applications relating to specific funding for novel, high risk, high cost clinical interventions (eg monoclonal antibody therapies and resource intensive surgical procedures).

However, few clinicians will appreciate the nuances of the funding bureaucracy around high volume, low cost and low risk activities and

interventions. Even fewer will make special applications on a case-by-case basis for low risk and relatively minor clinical and surgical interventions. Very few will have any experience of the enforcement of such processes at hospital level or will know how to initiate and conclude the complex and time consuming applications associated with such policies.

In marginal circumstances, common sense and the law of proportionality are applied at all levels in the relevant organisations. Without this, many high volume, high throughput clinical services would be significantly disrupted. One example is that NHS breast clinics process large volumes of patients with symptoms and complications arising from cosmetic breast augmentation, patients with fibroadenomas and male patients of all ages with a wide variety of breast conditions, including gynaecomastia in its various presentations, which often arrives in tandem with complex psychological needs.

THE PARTICULAR CIRCUMSTANCES OF PATHOLOGICAL GYNAECOMASTIA

Gynaecomastia is a complex and heterogeneous condition in men of all ages, which cannot be dismissed as a cosmetic problem in all cases. As early as 2009, James Henderson reported the existence of a plastic surgery 'postcode lottery' in England despite national guidelines.[1] In 2015, Roger Stephens and colleagues, writing from the Royal Marsden, noted a persisting 'postcode lottery' for the surgical correction of gynaecomastia in NHS England, with variable compliance with advisory policies and with variable criteria.[2]

The terminology of gynaecomastia covers a range of conditions that include fat deposition and proliferation of the stromal and ductal elements in the male breast. In some cases, gynaecomastia arises from specific endocrine and hormonal stimuli, including (rarely) with testicular tumours[3] and commonly in the medical management of prostatic cancers with drugs such as bicalutamide and flutamide.[4]

It is a known side effect of anabolic steroid use in gyms and professional body builders are adept at managing the condition with aromatase inhibitors in advance of competitions.[5] It is also important to exclude breast cancer in men presenting with a breast mass.[6]

However, the majority of male patients with symptomatic gynaecomastia who reach secondary care have idiopathic forms of the condition, for which no specific cause can be found despite loose talk about 'hormone imbalances'. Indeed, endocrine profiles are rarely of much help in the diagnosis and management of such presentations.

In the frequent absence of clarity around the nature and management of the condition in primary care, patients may reach secondary care services through a variety of routes and by referral to a variety of specialists, including paediatricians, endocrinologists, and endocrine, general and plastic surgeons. Many such patients are conveniently channelled through breast clinics 'to exclude breast cancer' in order to expedite access.

Surgeons who are experienced in the management of gynaecomastia will recognise two general forms of the condition: the 'fatty form' of gynaecomastia and nodular gynaecomastia. The 'fatty form' is characterised by diffuse fat infiltration among the strands of embryonic ductal and stromal tissue, which radiate throughout the breast. Such fat deposition can produce dramatic enlargement of the breasts and it is common with the age related forms of the condition known colloquially as 'man boobs' or 'moobs'. There is little place for endocrine management of this form of the condition.

A range of technical solutions have been adopted by surgeons to reduce the skin envelope and/or to use liposuction to reduce the mass of fat. In extreme variants of the condition, as in older men with particularly excessive breast enlargement on endocrine therapy for prostate cancer, operations which include breast reductions, mammoplasties and even simple mastectomies can be a practical solution for the distressed and embarrassed patient.

The other form of the condition is nodular gynaecomastia, also sometimes referred to as fibrous gynaecomastia. In this condition, the glandular tissue (stromal and ductal) develops as a dense hyperplastic mass of subareolar tissue that can exceed 10cm in diameter (either unilaterally or bilaterally) and that may display features such as pseudoangiomatous stromal hyperplasia. As such, operationally, a mass of nodular gynaecomastia is not dissimilar in density to the fibroadenoma, hamartoma or benign phyllodes tumours that are commonly found in the female breast.

Nodular gynaecomastia can be associated with significant pain and asymmetrical breast tissue. This can cause profound embarrassment and distress to young men, adolescent boys and their parents. It can be associated with bullying, teasing, and a withdrawal from contact sports and other social activities. Nodular gynaecomastia rarely resolves once the dense mass has formed.

MANAGEMENT STRATEGIES FOR GYNAECOMASTIA

Men with gynaecomastia attend NHS clinics in significant numbers and often in the acute phase of 2–3 months, when breast tenderness is a key feature. Once known causes around medication are acknowledged and breast cancer has been excluded (ultrasonography is usually sufficient), the majority of men can simply be reassured and returned to general practice. This leaves a cohort of around 5% of such patients with more complex problems, including severe persistent and recurrent pain or progressive nodular gynaecomastia, for whom reassurance is insufficient.

Tamoxifen has been advocated for the short-term symptomatic management of gynaecomastia. However, this is an off-licence use of the drug, and the published studies tend to have involved low numbers of patients with short-term follow-up (3 months) and focused on the management of pain, with variable outcomes.[7] In addition, many clinicians, individual patients and parents might be concerned at the treatment of an otherwise healthy young man

with a powerful antioestrogenic and anticancer compound that was designed for women, and that has limited clinical evidence of merit and safety in young men.

SURGERY FOR PERSISTENT AND PROGRESSIVE NODULAR GYNAECOMASTIA

When all conservative and reassurance measures have been exhausted, there remains a small cohort of older adolescents and younger men (perhaps no more than five per annum in any major NHS breast centre) with severe nodular gynaecomastia. These troubled individuals experience miserable symptoms and significant psychological impact. Fortunately, a simple, low risk and low cost solution exists in the form of a range of surgical options, which have evolved over several decades.[8–15]

The surgical solution has been clearly articulated by Paul Thiruchelvam and colleagues, who noted in the *British Medical Journal* in 2016: 'Surgery is the only effective treatment option once gynaecomastia becomes fibrotic.'[13] This view is reinforced among others by Kristin Baumann, writing from the University of Lübeck, who observed: 'For gynaecomastia persisting over 12 months, surgical excision is the treatment of choice, and there are several surgical options available depending on the grade of the gynaecomastia. A thoughtful approach to managing this condition can lead to high patient satisfaction.'[14]

The 'traditional' operation of a subcutaneous mastectomy in these circumstances often produces very unsatisfactory outcomes. Surgical removal of all of the glandular and fatty tissue leads to an ugly discoid depression on the chest wall, wherein the nipple–areola complex and surrounding skin become adherent to the pectoral fascia.

The subcutaneous mastectomy for nodular gynaecomastia can therefore be 'modified' or 'limited' to the nodular mass of tissue by a dissection that disconnects the nipple–areola complex from the underlying tissue mass. The latter can then be readily excised down to the pectoral fascia by keeping the dissection on the surface of the hard tissue mass and preserving the breast fat.

This surgical approach is akin to dissecting out a giant subareolar fibroadenoma and it is de facto a subareolar resection or a fat preserving variant of a subcutaneous mastectomy. This procedure addresses the primary deformity and symptomatic stimulus in the breast while avoiding the problems of the more extensive subcutaneous operation that surgeons of an earlier generation were taught.

The localised subareolar cavity that is left by dissection of the nodular and glandular mass from the surrounding fat with careful haemostasis fills with a seroma, which gradually resolves. The operation is commonly, easily and safely conducted through a low visibility incision on the areolar margin.[10,11,15] In resource terms, it can be undertaken as a day case under general anaesthesia by an experienced surgeon in around 30 minutes.

CONCLUSIONS

There is considerable anecdotal evidence of confusion in the delivery of care in NHS surgical centres for the small numbers of patients with severe forms of progressive nodular or fibrous gynaecomastia, which are readily treatable with careful case selection. The confusion is exacerbated by dated, simplistic and poorly drafted administrative guidelines around service funding, which are patchily applied amid additional confusion around their scope and implementation. The redrafting of guidelines for the public sector management of gynaecomastia, and the designation of surgeons with the specialist experience and interest to treat the pathological forms of gynaecomastia in all specialist NHS breast surgical centres is now necessary. Such a review would further increase service efficiency and address the lottery of passage through NHS clinical services for a significant number of troubled and distressed young men, whether attended by general, endocrine, breast or specialist plastic surgeons.

References

1. Henderson J. The plastic surgery postcode lottery in England. *Int J Surg* 2009; **7:** 550–558.
2. Stevens RJ, Stevens SG, Rusby JE. The 'postcode lottery' for the surgical correction of gynaecomastia in NHS England. *Int J Surg* 2015; **22:** 22–27.
3. Polat AV, Öztürk M, Çamlıdağ İ, Akyüz B. Is gynaecomastia related to the disease characteristics and prognosis in testicular germ cell tumor patients? *Diagn Interv Radiol* 2019; **25:** 189–194.
4. Fagerlund A, Cormio L, Palangi L *et al*. Gynaecomastia in patients with prostate cancer: a systematic review. *PLoS One* 2015; **10:** e0136094.
5. de Luis DA, Aller R, Cuéllar LA *et al*. Anabolic steroids and gynaecomastia. *Review of the literature. An Med Interna* 2001; **18:** 489–491.
6. Niewoehner CB, Schorer AE. Gynaecomastia and breast cancer in men. *BMJ* 2008; **336:** 709–713.
7. Hanavadi S, Banerjee D, Monypenny IJ, Mansel RE. The role of tamoxifen in the management of gynaecomastia. *Breast* 2006; **15:** 276–280.
8. Hands LJ, Greenall MJ. Gynaecomastia. *Br J Surg* 1991; **78:** 907–911.
9. Daniels IR, Layer GT. Gynaecomastia. *Eur J Surg* 2001; **167:** 885–892.
10. Lanitis S, Starren E, Read J *et al*. Surgical management of gynaecomastia: outcomes from our experience. *Breast* 2008; **17:** 596–603.
11. Lapid O, Klinkenbijl JH, Oomen MW, van Wingerden JJ. Gynaecomastia surgery in the Netherlands: what, why, who, where. *J Plast Reconstr Aesthet Surg* 2014; **67:** 702–706.
12. Brown RH, Chang DK, Siy R, Friedman J. Trends in the surgical correction of gynaecomastia. *Semin Plast Surg* 2015; **29:** 122–130.
13. Thiruchelvam P, Walker JN, Rose K *et al*. Gynaecomastia. *BMJ* 2016; **354:** i4833.
14. Baumann K. Gynaecomastia – conservative and surgical management. *Breast Care* 2018; **13:** 419–424.
15. Mett TR, Pfeiler PP, Luketina R *et al*. Surgical treatment of gynaecomastia: a standard of care in plastic surgery. *Eur J Plast Surg* 2020; **43:** 389–398.