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"Skin cancer surgery: Who should do it and why?"

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Introduction

The progress of surgery through history has followed a tortuous (and for the most part torturous) path, and bears the fingerprints of all kinds of institutions, from the Clergy to the Worshipful Company of Barbers, and more recently the Royal College of Surgeons.[1] This multifarious stewardship is in striking contrast to the relative exclusivity of surgery today. However, the evolutionary process continues, hurried along by the budgetary and resourcing pressures put upon our NHS. The surgical treatment of skin cancer is now performed by dermatologists, surgeons, general practitioners (GPs), and since the NHS plan published in 2000, nurses.[2] Broadening the pool of professionals with surgical responsibilities leads inevitably to the question, who really ought to do it?

Pressures on dermatology services

Over the last 30 years the incidence of malignant melanoma has risen more than fivefold in men and threefold in women.[3] In 2009 over 11,000 cases were diagnosed.[3] The trend for non-melanoma skin cancer (NMSC) is equally disturbing, with an estimated 50,000 new cases diagnosed each year.[4] As a result, skin cancer now accounts for 20% of all cancer registrations annually.[4] These alarming trends have put a significant strain on NHS dermatology services, which if continued will not be sustainable in the long term. This has been compounded by a shortage of dermatologists,[5] tighter budgets and an ageing population.

A mooted solution to the quandary facing dermatology, and specifically skin cancer surgery which remains the mainstay of treatment,[6,7] is a rebalancing of the service between primary and secondary care. The Department of Health (DoH) has sought to cut costs by encouraging a reduction in referrals to secondary care and expanding the role of both GPs and also GPs with a special interest (GPwSI) in skin cancer surgery.[8] However, the National Institute for Clinical Excellence (NICE) has advanced a seemingly contradictory approach when it states that,

"Diagnosis and treatment planning of all suspicious pigmented lesions, all skin lesions that may be MM, SCC or high risk BCCs, and any other skin lesion that may be a skin cancer but where the diagnosis is unclear, should be carried out only by specialists (normally dermatologists) who are suitably trained and who are part of the hospital Multi-disciplinary team (MDT) network".[4]

This guidance from NICE is expected to increase dramatically the referrals to secondary care and decrease commensurately the surgical load on GPs and GPwSIs.

The distinction between the respective positions of the DoH and NICE is perhaps explained by a difference in motivation – the DoH is aiming to cut costs and maximise resources, whereas NICE is aiming to elevate and maintain the highest standards of clinical practice. This then begs the important question: what criteria should be used to determine who performs skin surgery?

An answer can perhaps be found in the NHS constitution, the pertinent elements of which suggest that the essential factors are clinical outcomes, value for money and patient choice.[9] Each of these will now be examined in turn.

Clinical outcomes

Goulding et al found that margin involvement was most often present in excision biopsies performed by GPs (68%), followed by general surgeons (19%), and dermatologists (8%).[10] Other measures for clinical outcome, such as inappropriate or delayed surgical treatment have shown that, in general, the performance of secondary care services exceeds primary care equivalents.[11]

The alarmingly high rate of margin involvement in excisions performed by GPs is of particular concern because subsequent histological diagnoses of the excised lesions included MM, which carries the highest skin cancer mortality rate.[12] Under NICE guidelines, MM should always be referred to specialist care if suspected.[4]

The lower but still significant rate of margin involvement in excisions performed by surgeons has been attributed to their more complex caseloads.[10] In support of this claim, McKenna et al found that dermatologists continue to rely heavily on their surgical colleagues to perform wider excisions and excisions in difficult anatomical locations.[13]

There is a concerning paucity of audit data measuring the clinical outcomes for surgery performed by nurses, probably due to the novelty of the specialty. There is, however, every reason to believe that as the specialty develops and nurses accumulate more experience their results will in time match or even exceed those achieved by GPs and GPwSIs, particularly if nurses end up performing such surgery more frequently than GPs and GPwSIs. This important point is borne out by the Calman-Hine report,[14] which lends credence to the principle that increasing specialisation leads naturally to improved performance, a principle easily applied to the nursing profession in this context.

However, the best clinical outcomes are achieved with Mohs micrographic surgery (MMS), which is performed almost exclusively by appropriately trained dermatologists. MMS has several important clinical advantages; it maximises healthy tissue preservation, allows immediate reconstruction if the tumour margins have been determined negative,[7] and boasts lower recurrence rates in comparison to standard excision.[15] While this is the clinical position, due to the relative expense of MMS and a shortage of trained dermatologists, this technique is reserved for specific indications.[15]

The weight of evidence therefore suggests that dermatologists, particularly those trained in MMS, achieve the best surgical outcomes. However, non-dermatologist surgeons continue to occupy a niche in treating more complex surgical patients.

Cost efficiency

In the current economic climate the making of quantitive cost judgements cannot be avoided. Coast et al found that across dermatology as a whole GPwSIs were 75% more expensive than equivalent care provided in an outpatient clinic.[16] This notable disparity is largely due to outpatient clinics offering appointments with either expensive consultants or less expensive registrars or clinical assistants, whereas GP surgeries invariably offer appointments with expensive GPwSIs. Other studies evaluating the costs of shifting care from secondary to primary services have similarly found GP care to be more costly than hospital outpatient care.[17]

Having identified the value of professionals' time as the primary cause of cost discrepancy, it seems plausible that nurse-led surgery is likely to be cheaper than any of the alternatives.

Patient Choice

Giving a louder voice and greater choice to patients was a major political priority emerging during the 'noughties'.[18] The drive to encourage patients to reject the historically paternalistic mentality of health care professionals and adopt a more consumerist mentality is reflected in the 'Principles that guide the NHS', which state,

"NHS services must reflect the needs and preferences of patients, their families and their carers."[9]

It is important therefore that both the clinical outcomes and the 'preferences of patients' are given due consideration. The nursing profession has been particularly sensitive to the latter; indeed, the quality of patient centred care is probably the most frequently measured outcome in audits evaluating nurse-led skin surgery. A large questionnaire conducted at Queen's Medical Centre found that,

"Given a choice [patients] would rather have the biopsy performed on the day of their visit by a nurse than return at a later date to have it performed by a doctor."[19]

Cox and Walton have shown this preference to be deliverable through the use of nurse-led care.[20] Furthermore, reducing the delay between the discovery of a suspicious lesion and diagnosis/treatment has been shown to significantly reduce patient anxiety.[21]

The primary aim in developing and expanding the services provided by GPwSIs is to provide high quality care and improve access.[22] This ambition has been effectively delivered; Coast et al showed mean cost to patients treated by the GPwSI were slightly lower than those treated in an outpatient clinic.[17] Additionally GPwSIs provided better access, satisfaction, waiting times and facilities than their hospital-based colleagues.[16] However, All of these benefits are derived from treatment in the community, not treatment by GPwSI per se. It seems indisputable that community based nurses therefore could match these benefits, at lower cost.

In contrast, there is little evidence to suggest that patients have a preference for their skin surgery to be performed by a surgeon or dermatologist. This may be explained by the patient's lack of clinical knowledge upon which to base an informed decision. If all the clinical benefits of MMS were presented to patients in an accessible format perhaps there would be a very substantial demand for the services of MMS trained dermatologists. This issue highlights the Achilles heal in the government's drive to transform patients into consumers; the dream of patient choice is a fallacy if the choice is not sufficiently informed. This point reinforces the continuing worth of the GP's role as gatekeeper to the NHS.

Conclusion – a balancing act

As with all the most engaging questions in medicine, the answer lies in a delicate balance, which must give due weight to several considerations. I have argued that clinical outcomes, cost and patient choice are the three most pertinent components of this balancing act.

The weight of evidence suggests that dermatologists (including those trained in MMS) working in tandem with surgeons provide the best clinical outcomes for skin cancer surgery. For the treatment of high-risk skin cancers this MDT approach should be the standard, as supported by the most recent NICE guidelines.[4]

However, for the treatment of less risky skin cancers the balance of priorities should swing away from minimising margin involvement in favour of reducing cost to the NHS and facilitating the priorities of patients. On that basis, the surgical management of easily operable skin cancers would remain in the primary care setting. The cost consideration can be addressed by facilitating specialist nurses based in the community, who will be able to deliver all of these benefits at a dramatically lower cost than GPs/GPwSIs. Their role should therefore be limited to the assessment and diagnosis of the suspicious lesion, followed by the option to refer to the hospital based MDT service or the specialist nurse for surgery.

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