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TOPIC HIGHLIGHT

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The general surgeon in inter-disciplinary gynaecological cancer care

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Abstract

Gynaecological cancers pose a significant cancer burden globally. In 2008 cancers of the cervix, uterus and ovaries accounted for 529000 (4.2%), 287000 (2.3%) and 225000 (1.8%) cancers, respectively, and together were responsible for 486400 deaths. Inter-disciplinary gynaecological care is an emerging concept aimed at providing more effective care by integrating different disciplines into a team working together to perform the various aspects of management at one time. This model has both advantages and potential shortcomings. In advanced healthcare systems there appears to be little role for the general surgeon. However in developing world, the general surgeon has a valuable, but complementary role in inter-disciplinary gynaecological cancer care. This role depends on the available workforce and includes, but is not limited to, the establishment of a diagnosis and treatment, including the management of complications. There is however little evidence-based research to provide guidance on the general surgeon's role in inter-disciplinary gynecologic cancer care and more research is needed.

Key words: General surgeon; Inter disciplinary; Diagnosis; Treatment; Gynaecological; Cancer

Core tip: Gynaecologic cancers constitute a major cancer burden. The general surgeon's role in inter-disciplinary gynaecological cancer differs between developed and developing countries. The increased sub-specialization in surgery in developed countries has obviated the need for the general surgeon in gynaecologic cancer care. In developing countries the general surgeon plays an essential but variable role, depending on the medical infrastructure and available manpower, which is usually limited in this setting. Interdisciplinary care is an emerging concept aimed at improving outcomes in cancer management and may be useful irrespective of the setting.

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INTRODUCTION

Cancers which primarily affect women are a major contribution to the global cancer burden. When breast cancer is excluded, gynaecological cancers still constitute a significant part of the cancer burden worldwide. Gynaecological cancer includes, but is not limited to, cancers of the cervix, uterus, ovary, vulva and vagina. Since cervical, uterine and ovarian cancers are the most common gynaecological cancers, they will be the main ones considered in this review. Of the estimated 12.7 million new cancer cases in 2008, cancers of the cervix uterus and ovaries accounted for 529000 (4.2%), 287000 (2.3%) and 225000 (1.8%), respectively, and these cancers were responsible

for 486400 of the 7.6 million cancer deaths in the same year. These 3 gynaecological cancers alone are among the 10 most common cancers in women[1].

A general surgeon is difficult to define. Trunkey's statement over 25 years ago provides an interesting but adequate description. He stated that a general surgeon is one who can treat the injured, the very sick patient and perform non-cardiac thoracic, general vascular, gut and gland surgery[2]. While there is currently increasing subspecialization within general surgery, we would concern ourselves with those specialists trained in general surgery who can provide competent and high quality care across a broad range of conditions. A general surgeon may be involved in the management of patients with gynaecological cancer for reasons including those related to diagnosis, treatment, and follow-up as well as workforce availability. Traditionally the general surgeon's role in the management of gynaecological cancer depends strongly on the medical infrastructure and varies from country to country and from region to region. There is a major difference in the role of a general surgeon in interdisciplinary gynaecological cancer care between developed and developing countries. While specialists and subspecialists are widely available in the developed world, with technology that aids accurate diagnosis and treatment, the reverse is the case in the developing world[3,4]. This review article will discuss the role of the general surgeon in interdisciplinary gynaecological cancer from these two perspectives.

Modern cancer care may be interdisciplinary or multidisciplinary with different specialties contributing their knowledge and experience to improve patient outcome. It has become important for health workers to collaborate to achieve improved outcomes. They bring knowledge and expertise from their different disciplines which can be effectively channeled into better patient care. The various disciplines working together in a team complement each other[5]. Suitable definitions of interdisciplinary and multidisciplinary teams have been difficult[6]. An interdisciplinary team may be described as that which integrates separate disciplines into a single consultation. This is such that history taking, physical examination, diagnosis and management are conducted with the patient by the combined team at one time[7]. This should be differentiated from multidisciplinary care which also utilizes the skills and experience of individuals from different disciplines but with each discipline approaching the patient from their own perspective. The consultations may be arranged for different times on a single day and the multidisciplinary team meets frequently to discuss the management, but in the absence the patient[8]. It is expected that each member of the interdisciplinary team should be individually knowledgeable, skillful, reliable, experienced, and able to communicate effectively sharing responsibility in teamwork[9]. The general surgeon is no exception.

Advantages of interdisciplinary care are related to the patient, health workers and the health care system. Advantages to the patient include better outcomes, reduced waiting time and greater level of involvement in decision making. For the health worker, advantages are more equal workload distribution, increased learning opportunities and greater work satisfaction. On the whole, there is reduced cost and more efficient utilization of the health care system. Possible disadvantages include role confusion, differing values and interests, and sometimes lack of common purpose[6]. In addition, the views of quieter team member may be neglected. There is a paucity of literature on the role of a general surgeon in an interdisciplinary team.

In developed countries, current recommended management for gynaecogical cancer is multidisciplinary[5]. The team is generally made up of a gynaecological oncologist, a site specialist oncologist, pathologist, gynaecological cancer nurse specialist, radiologist, palliative care specialist and a clinical geneticist. In addition, patient management is aided by advanced medical equipment including those used for imaging, thus pretreatment diagnosis and staging is usually known and treatment planned accordingly.

DIAGNOSIS

Gynaecological malignancies present in various ways. Presentation depends on the type of cancer, site and stage. Classical presentation with vaginal bleeding and other symptoms related to the female reproductive tract are likely to present no difficulty to the primary care physicians or the gynecologists. Cancers detected by screening, like cervical cancer, are also relatively straightforward in terms of diagnosis.

Occasionally a general surgeon may encounter a gynaecological malignancy while managing surgical patients. If this occurs preoperatively it is recommended that the patient be referred to the gynaecological oncology team. However, if this occurs intraoperatively it is more difficult to decide on treatment, but studies have shown that patient outcomes are better when gynaecological cancer surgeries are performed by gynaecogical oncologists[10,11].

In this context, the role of a general surgeon in an interdisciplinary setting may be to contribute in the initial clinical assessment of a patient with a gynaecological tumour which has progressed to involve other organs. This may be the case in a patient with ovarian cancer who has relapsed. However, it may be argued that rather than the general surgeon, the specific sub-specialists associated with the cancer sites should be part of the interdisciplinary team. In this context then, there will be little role if any for the general surgeon. In reality it may be that, in this context, there is little need for the specialist referred to as a general surgeon in any role.

The converse is the situation in the developing world, characterized by the absence of skilled manpower and equipment. The classical presentations of gynaecological malignancies will similarly present no major difficulty in diagnosis for the primary care physicians and gynaecologists but precise diagnosis and staging may be challenging

due to inadequate complementary diagnostic investigations, such as modern imaging. There is greater reliance on the clinical evaluation in this setting, with the attendant difficulty in accurate staging[12]. Patients also tend to present at healthcare facilities later, with more advanced disease and attendant complications[13].

In this setting, the general surgeon as a part of interdisciplinary care may contribute in the process of history taking and examination by helping to determine or exclude involvement of other organs. Advanced gynaecological tumors presenting as intra abdominal masses, gastrointestinal or vascular obstruction, will require input from the general surgeon. Ovarian tumors are well known for their relatively late presentation[14] and complications such as bowel obstruction are common[15]. This type of late presentation is common in less developed countries where there are limited investigation modalities and preoperative diagnosis may be difficult. Sometimes the exact diagnosis is determined during surgery. The general surgeon will provide knowledge and experience that would be useful to the interdisciplinary team in the evaluation of these cases. The presence of metastatic disease at sites remote from the female reproductive tract will be easier for the general surgeon to detect during the interdisciplinary evaluation of the patient. The general surgeon may also play a complementary role in the choice of investigations in the diagnostic work-up, enabling early, relevant and necessary investigations that will influence further management. Involvement of neighboring structures, such as small and large bowel, and ureters are determined early. The presence of remote metastases and how this may affect treatment plans (curative versus palliative) is another area where the general surgeon's expertise will be useful.

Some patients with gynaecological malignancies have hereditary cancers and may have or be at risk of other tumours outside the female reproductive tract. These include hereditary non-polyposis colorectal cancer syndromes (HNPCC) and BRCA mutations[16]. These are now largely managed by colorectal and breast surgeons as part of the interdisciplinary team in developed countries. However, the general surgeon replaces these sub-specialists in developing countries, and may be able to advise on the possible need for further genetic evaluation.

A possible drawback in the interdisciplinary approach to these patients may be the loss of privacy involved in asking questions about, and evaluation of parts of the body that are normally concealed. Thus the patient may feel uncomfortable divulging information and exposing her body to examination by a group.

TREATMENT

Treatment of gynaecological cancer is multimodal. Options include surgery, radiotherapy, chemotherapy and hormonal therapy. It is not uncommon for patients to undergo extensive pelvic surgery with neoadjuvant or adjuvant chemotherapy as well as chemotherapy. The multimodal treatment of these tumours already encourages multidisciplinary collaboration and has the potential to foster an interdisciplinary approach to patient care. Modern trends suggest that surgical treatment should be done by gynaecological oncologists for more favorable outcomes. However in the interdisciplinary setting, the treatment of the patient is individualized, recognizing the needs, condition and aim of treatment. Treatment with curative intent should be the goal but is not always possible and the interdisciplinary team has the potential to offer the best available form of care when the team brings their collective expertise to bear. For early tumors the gynaecological oncologist in conjunction with the team attempt to achieve a cure, but the radiologist and pathologist aid in determining accurately what constitutes early disease. Tumour involvement of adjacent organs may require the inclusion of other specialists like urologists and colorectal surgeons, especially in more advanced tumors. As previously discussed, the role of the general surgeon is limited in advanced countries.

However in less advanced healthcare settings, as a result of dearth of relevant manpower, the general surgeon can contribute to the decision on the type and extent of surgery and the need for other modalities of treatment. Issues such as the extent of resection, dealing with other involved organs and whether a stoma is required temporarily or permanently, can be resolved preoperatively. The role of surgery in the management of early and advanced gynaecological cancer is established[17-20]. Even intraoperatively, the presence of more extensive disease than anticipated or detected preoperatively poses less of a challenge to the interdisciplinary team. Modifications to the operative technique traditionally out of the purview of the gynecological oncologist can be carried out readily and competently without the need for further surgery. Issues such as bowel involvement and possible need for primary anastomosis or the creation of stoma, are addressed confidently as they arise and vascular involvement by the tumour need not be an indication for limiting the extent of surgery. Intraoperative complications, especially in extensive surgeries, involving bowel, vessels and the urinary tract, can be repaired during a single surgery. Surgical management of advanced gynaecological malignancies poses a major challenge in oncological care[19]. The general surgeon will provide assistance in cytoreductive and palliative surgeries. It is important to note that oncological care in less developed countries at present largely involves management of advanced diseases. Closely related to advanced presentation is the treatment of recurrent disease either as a result of previous suboptimal or inadequate treatment or of disease recurrence even in well treated cases.

Use of multimodal treatment options like radiotherapy for gynaecological malignancies increases the risk of bowel related complications such as fistulae and strictures[21]. Definition of the extent and location of these complications may require the expertise of a general surgeon in the interdisciplinary team.

There have been reports that patients managed by gynaecological oncologists have better outcomes than those treated by general surgeons[10,11]. This may be related more to the working environment rather than surgical skill[22]. However, it is clear that multidisciplinary care results in better outcomes[23-27]. The role of a general surgeon in interdisciplinary care will be complementary and useful even if there are doubts about the outcome when he/she manages the patient alone.

FOLLOW UP

Patients with gynaelogical cancer may undergo multimodal treatment with curative or palliative intent. They may be cured, or symptoms effectively palliated. At the other extreme, they may develop debilitating complications from the cancer or it treatment. Often the outcome falls between these two extremes, therefore consigning the patient to a lifetime of repeated evaluation to determine recurrence, manage symptoms and treat complications. The general surgeon's skill is a useful part of the interdisciplinary management of these patients. Gastrointestinal symptoms and complications can be detected and managed accordingly.

Evaluation of the patient for evidence of recurrence or distant spread may enable earlier detection and appropriate management.

WORKFORCE

In parts of the world where there is inadequate availability of health workers to manage gynaecological cancers, general surgeons may provide a readily available pool that can provide the knowledge and technical skill required to achieve better outcomes in an interdisciplinary setting. They also can be trained to fill any gaps that currently exist in the provision of high quality gynaecological oncology services.

There is little evidence in the literature about the role of general surgeons in interdisciplinary health teams involved in the management of gynecological cancers. Research in this and related areas is required.

CONCLUSION

Interdisciplinary healthcare is an emerging system which challenges the traditional paradigms. It has the potential to improve patient care and change the way gynaecological cancer is managed. The general surgeon's role in an interdisciplinary team for gynaecological care can be viewed from two perspectives; in an advanced healthcare setting in which his/her role is very limited due to the availability of the relevant subspecialists, and in a less advanced setting in which his/her role is complementary but important and useful. The general surgeon may be a valuable resource where there is inadequate manpower and should perhaps be trained in gynaecological oncology to provide optimal care.

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