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The problems of surgical training in Gynaecologic Oncology

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Summary

During the late 60s and early 70s it was recognised that the surgical training for residents in Obstetrics and Gynaecology was inadequate to comprehensively acquire the surgical skills necessary in managing women with gynaecologic cancers. Gynaecologic Oncology (Gynae-Oncology) has three important goals: 1) to maintain the highest standards for patients with gynaecologic cancer, 2) to provide the trainee with clinical skills and structural clinical research after his/her surgical completion, and 3) to acknowledge clinical training centers for the trainees in Gynae-Oncology. For women trainees careful family planning, good communication, flexibility from the program director and faculty, support from co-workers, and, most important, participation and support from the spouse of the trainee are the ingredients of successful childbearing and family care during training programs. These problems have to be faced and dealt with before they become insurmountable problems. International standards are needed for training programs of trainees in Gynae-Oncology, with special emphasis on surgical skills.

Key words: Gynaecologic Oncology; Training; Problems.

Introduction

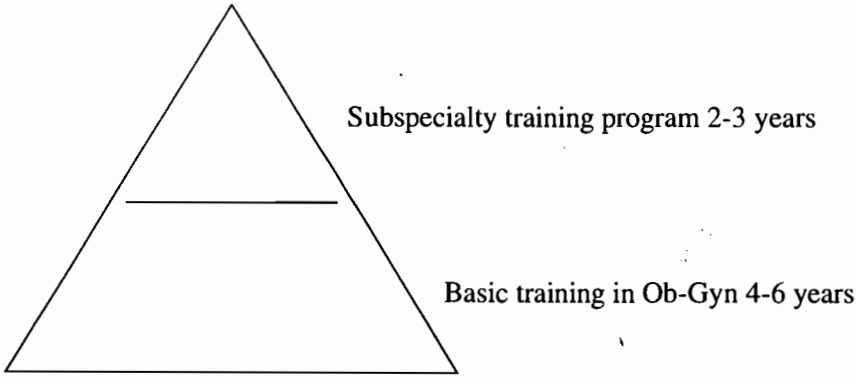
Gynaecology is a relatively young discipline and was primarily a kind of pelvic emergency surgery in the female when it merged with obstetrics to form a new discipline called Obstetrics and Gynaecology. This occurred some 150 years ago. Included in this specialty was the surgical management of malignancies of the female tract. The oncological aspects of the specialty were emphasised by the end of the 19th century when Wertheim and others performed the first radical operations for cervical carcinoma.

During the late 60s and early 70s it was recognised that the surgical training for residents in Obstetrics and Gynaecology was inadequate to comprehensively acquire the surgical skills necessary in managing women with gynaecologic cancers. Thus in 1971, in the USA a two-year fellowship was approved, whereby a trainee obtained skills in chemotherapy, radiotherapy, laboratory, research, communication, and counselling for women with gynaecologic cancer. Whilst all these aspects are important in training, without surgical expertise a gynaecologic oncologist cannot truly function. The programme in the USA was revised to a three-year fellowship in 1996 to accommodate two years of clinical work and one year of research.

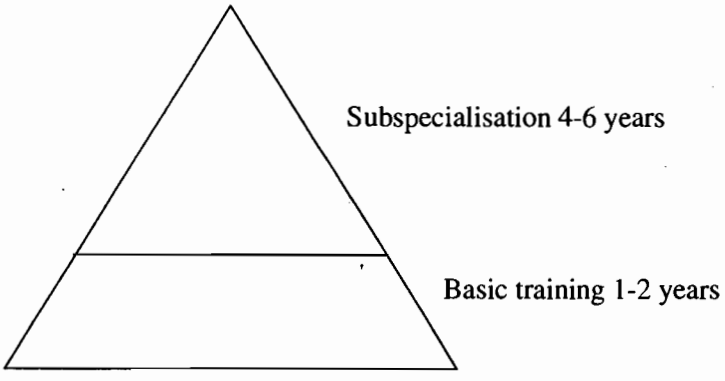
Whilst accepting the importance of all aspects of training in Gynaecologic Oncology, this paper concentrates on the potential difficulties which may be encountered in programme development within Europe, in particular, obstacles to obtaining surgical skill.

2. Sub-specialisation in Ob-Gyn: Advantages and Disadvantages

The subspeciality of gynaecologic oncology is an area of medical knowledge concerning research, prevention, diagnosis, and treatment – with emphasis on gynaecologic surgery – follow-up, rehabilitation, and palliative care of patients with gynaecologic and (in certain countries) breast cancer. Presently, the USA, Australia and most European countries offer a kind of pyramidal system of postgraduate educational training.



The development of subspecialties has fragmented our speciality of Ob&Gyn, although patient care has not suffered from this division. Subspecialties in Ob&Gyn have been widely approved: only 10% of the respondents to an USA mail questionnaire rejected the development of subspecialties [1]. In contrast, Jansen from the Royal Prince Alfred Hospital in Sydney stated in 1988: "Why should it remain forever necessary to learn about the intricacies of for instance feto-maternal medicine before becoming a cancer surgeon? It might be too expensive and too time wasting. Do we have to search for other training models, like early differentiation?" [2].



The risk of early subspecialisation is the production of highly skilled medical personnel who may not be suitable for the purpose of providing general obstetrical services. Arguably, those embarking on Gynaecologic Oncology may not require training in Obstetrics. Though large and highly specialised centres with sufficient Generalists may accommodate subspecialties, many units and indeed countries [such as the developing nations] are unlikely to have the required resources for such a system. The majority of consultants specialise in General Obstetrics and Gynaecology [for example in 1988 there were 1,080 Board Registered Ob&Gyn compared with 16 for Gynaecologic Oncology]. It is most probable that in many European countries, it will not be possible to facilitate the gynae-oncologist as a separate individual from the general Obstetrics and Gynaecologic commitment.

3. Problematic Issues in Gynae-Oncology Surgical Training

3a. Abdominal Surgery

The trainee has to be skilled in gynaecologic surgery, as well in urologic, vascular and bowel surgery. The definitions and limits of gynaecologic surgery are clear most of the time. It includes the vulva, the groin, the vagina, the uterus, adnexa, the pelvic and para-aortic lymph nodes, the omentum majus and minus and in many countries the breast. The trainee is trained to remove all these tissues, including the management of complications and implications thereafter. Bowel surgery is frequently required for the management of gynaecologic cancer. But, what if a problem occurs with the bladder, bowel, vessels or other organs. At what

precise moment do we have to call a colleague of another speciality or handle the problem ourselves? In many countries there may be no clear agreements on this issue and in many hospitals local agreements are made. Regardless of agreements, it may sometimes lead to misunderstandings and miscommunications resulting in disagreements between the various participating departments.

What is the point of view of the American colleagues? The American physician must understand the effects of the treatment modalities and this was emphasised in the original guidelines of the Division of Gynaecologic Oncology of our American Board of Ob-Gyn [3]. It stated that "an understanding and capability to perform radical pelvic operations independently, including experience in operations on the intestinal and urological organs as related to gynaecologic cancer". In a study by Rubin *et al.* during a three year period 10.4% of all laparotomies performed by the Gynae-Onco Service included major intestinal surgery [4]. The most frequent indications were intestinal obstruction (43%) and intestinal fistula (23%). According to the author, gynae-oncologists can perform these difficult intestinal procedures safely in the context of a fellowship-training program. Since a significant proportion of all laparotomies performed on gynaecologic cancer patients will include one or more intestinal procedures, physicians managing patients with these diseases should have the technical skills necessary to perform these difficult procedures, as well as a thorough understanding of the disease themselves.

Little is known about how gynaecologic oncology is organised in Europe [5]. In Europe, there are not always such transparent agreements in our subspecialty. This is mainly due to different rules and agreements in all different European countries. In our opinion, the limits of our subspecialty should be clearly defined in the near future and approved by the Society for Gynaecologic Oncology, either European or International.

One of the authors (CWB) made an inquiry by telephone asking a gynae-oncologist in the Dutch cancer centres about the agreements between gynae-oncologists and other specialists. The results of this inquiry are listed in Table 1. Columns 1 and 2 indicate what according to the Dutch gynae-oncologists belongs in the field of the fully-trained gynae-oncologist. In the third column the operations that should be done together with another specialist-colleague are listed. In most Dutch clinics a general agreement between gynae-oncologists, surgeons and urologists has been made according to these protocols. In some other European countries bowel surgery and plastic surgery is performed by the gynae-oncologist. However, it is not only a matter of what the gynae-oncologist can or may do, it is also a medico-legal matter in case a postoperative complication occurs. Who is then responsible and was the gynae-oncologist authorised to perform a specific operation, which in fact may be beyond his scope and expertise. These matters will become increasingly important since more and more legal rules will be implemented in our profession. The limits of our subspeciality should therefore be clearly defined and rules are desperately needed if we want to protect our profession of gynae-oncologist in the future.

Table 1. — *Example of agreements between gynae-oncologists and other specialists.*

Problem	Handled by a Gynae-oncologist	Handled by a Gynae-oncologist together with organ-specialist
Bladder, kidney ureter	Mucosa damage Partial cystectomy	Ureter neo-implantation Ureter anastomosis nephrectomy
Bowel	Serosa-mucosa damage Wedge excision bowel	Partial bowel resection Primary anastomosis Hartmann's procedure
Stomach	Simple perforation	Gastric surgery
Liver	Closure by stitch of operative lesions	Liver resection Gall bladder removal Lymph node removal near truncus coeliakus
Vessels	Simple damage of arteries and veins (including vena cava and aorta)	More extensive damage Interposition of artificial tube
Vulva	Extensive vulvectomy and plastic surgery	In case extensive plastic surgery takes place it depends on the skill of the gynae-oncologist and the origin of the skin-flap

Table 2. — *Results of an European questionnaire presented at ESGO 11 (by author CdO).*

The number of *new gynaecologic oncologic* cases needed per year, per trainee, as proposed by the respondents.

Proposed cases	Percentage of respondents
50	34
75	25
100	29
other numbers	12

The number of *new breast cancer* cases needed per year, per trainee, as proposed by the respondents.

Proposed cases	Percentage of respondents
50	30
75	30
100	17
other numbers	23

The number of *radical hysterectomies* needed per year, per trainee, as proposed by the respondents.

Proposed cases	Percentage of respondents
10	37
20	43
30	20

3b Minimal Access Surgery (MAS)

Courses alone cannot replace a traditionally established and approved surgical residency training program which also provides basic knowledge and skill in MAS. The traditional all-round residency programs enable the trainee to progressively develop his or her expertise in clinical decision making, knowledge of new tools and developments. However, MAS has not yet been fully introduced in gynae-oncology and it is still practised by just a small number of physicians in the world. The question, therefore, arises whether or not the trainee in gynae-oncology will ever be fully skilled in MAS in gynae-oncology. For the near future, we think that this will only be the case in some selected centres in Europe.

3c Breast Surgery

Gynaecologists in many countries presently treat breast cancer. In the international questionnaire by Vergote *et al.* appeared that breast cancer was more often treated by gynaecologists in countries where Gynaecologic Oncology was not yet officially recognised (60%) than in countries with recognised Gynaecologic Oncology (32%) [5]. In the Netherlands breast cancer, as in the United Kingdom, does not belong to the domain of the gynae-oncologist.

The question arises as to whether or not the gynae-oncologist should manage breast cancer. The relationship between hormonal influences in the breast and pelvic organs makes such a proposal sensible. However, variations exist throughout Europe – in some countries breast carcinoma is within the brief of the gynae-oncologist – in others it is within the domain of general surgeons. As such, this needs to be addressed and each countrie's practices should be respected within any proposed training programme.

3d Social Aspects

It is important in the early stage of program development that the practical issue of female trainees is addressed. Indeed, considering the specialty involved, one would anticipate a high level of awareness of this situation. Family and the desire to have a family should not be an important impediment to progress but viewed as a normal event, and inclusive within the program design.

From a Canadian questionnaire it appeared that women were most likely to interrupt their training for greater than six months to fulfill family planning [6]. The balance between career and lifestyle is someti-

mes difficult to find. Interruption of a fellowship may very well interfere with the training program, and prolonging of training programs is then inevitable. The prejudice that women who do devote themselves to surgical training programs, including Gynae-Oncology, do not marry or have children is not supported by the results of the study by the Canadians [6]. In fact more than 75% of women surgeons have at least one child. Therefore, conflicts among trainee-training, early career development, and childbearing must be resolved for women who go into training for Gynae-Oncology. We can no longer deny the fact that women also aspire to develop a career in Gynae-Oncology like their male colleagues.

3e Trainees in Gynae-Oncology in Relation to General Practise

Should a trainee just concentrate on his/her operative skill and avoid obstetrics since being on duty for obstetrics is no longer necessary. From a training point of view this would be ideal, however, most units need an extra pair of hands in their on-call system. In this way, after completing the training program the trainee can easily participate in a large general hospital doing his/her subspecialty, but also practise obstetrics. In only the selected case where the gynae-oncologist only practises oncology, obstetrics is not necessary in a training program. On the other hand, tumours also occur in pregnant women, especially cervical cancer, and full knowledge of the pregnant women is highly recommendable.

3f Matters of Secondary Importance

Recently, other external matters in the 1990s have influenced the ability to balance responsibilities of research, teaching, and patient care. Managed capitated care has led to less compensation and more time spent on written documentation, forms, quality assurance, and competition for patients. Not only in the USA is this the case but also in many European countries. The switch from inpatient to outpatient care, the need to operate at outlying institutions and the medico-legal environment have all impacted on our workload. This may influence and endanger our core business: training in gynae-oncologic surgery.

3g Training of the Trainee in Gynae-Oncology

How many operative patients should be seen? From the questionnaire by Vergote *et al.* the median number of 142 patients per year (1 trainee) has been mentioned [5]. Hacker considered that in order to provide necessary experience for fellowship training at least 250 cases per year would be required [7]. It is obvious that the more operations, the more the trainee is skilled. Based on the figures for western Europe about 3,000 new cases of gynaecologic cancer (excluding breast cancer) are treated per year per 10,000,000 inhabitants [5]. Furthermore, approximately 40% of the patients with cervical cancer are candidates for radical hysterectomy. When accepting that, for example, 30 gynaecologic oncologists are needed per 10,000,000 inhabitants. This would mean that every certified gynaecologic oncologist would treat approximately 100 new cases per year (if all cancers are treated by one gynae-oncologist) and would perform about 13 radical hysterectomies for cervical cancer per year.

In May, 1999 one of the authors (CdO) presented the results of a questionnaire during the ESGO 11 meeting in Budapest. The results of this European questionnaire are presented in Table 2. It is clear that there is a large variety in the beliefs of the trainers as to what the trainees must do before they are authorised to practise Gynae-Oncology.

We believe that training should include:

1. exact knowledge of the instruments;
2. exact knowledge of adhesiolysis and the so-called tissue-feeling;
3. exact knowledge of anatomy, vessels, nerves, etc.;
4. basic knowledge of the oncologic surgery;
5. good understanding with the anaesthetist and paramedical staff;
6. good surgical planning together with the gynae-oncologist the day prior to the operation;
7. independence of the trainee during surgery.

Various techniques have been used to supplement the actual surgical learning experience, including mechanical aids such as a knot and suture board, animal tissue substitutes and surgical teaching laborato-

ries. Recently, the use of small, compact video cameras mounted on laparoscopes or on the surgeon's head, allowing the surgeon a view of the operation, have added a new dimension to surgical training. However, this method is rather time consuming and suffers from common problems such as the inability of more than one faculty member to observe a learner because of time constraints. A computer-enhanced method of evaluating observations collected on videotape has been developed. Consequently, the computer can be programmed to show a series of selected events from a longer videotape in an edited version of the operation [8]. Video training might be a new technique to improve the evaluation of surgical skills and training beyond the traditional one-on-one observation. Evaluation by a number of experts using predetermined evaluation instruments would theoretically provide more reliable and valid measurements, but time constraints have made this impossible in surgical training. Computerised control of readily available videotaping techniques is technically feasible and cost-effective. However, this system is still in an experimental stage and only used in tubal sterilisation.

4. Conclusions

According to the publication by Vergote *et al.* little is known about how gynaecologic oncology is organised in Europe, or how gynaecologic oncologists think this subspecialty should be organised [5]. In contrast in the USA the limits of our subspeciality are clearly defined. Gynaecologic oncologic training centres need requirements in order to provide quality care, adequate fellowship training and sufficient material for clinical and basic research. The duration of the fellowship varies from six months to 60 months. In most of the countries 60% of the duration of the fellowship includes diagnosis and surgery. The number of patients treated and operated on is critical. The respondents in the questionnaire by Vergote stressed the important role that international societies (like the European Society of Gynaecological Oncology and the International Gynaecologic Cancer Society) can play in supporting countries without recognised gynaecologic oncology programmes [5].

Gynaecologic Oncology has three important goals: 1) to maintain the highest standards for patients with gynaecologic cancer 2) to provide the trainee clinical skills and structural clinical research after his/her surgical completion, and 3) to acknowledge clinical trianing centers for the trainees in Gynae-Oncology. For women trainees careful family planning, good communication, flexibility from the program director and faculty, support from co-workers, and, most important, participation and support from the spouse of the trainee are the ingredients of successful childbearing and family care during training programs. These problems have to be faced and dealt with before they become insurmountable problems.

International standards are needed for training programs in gynae-oncology. Especially, emphasis should be put on the surgical skill of the trainee according to international standards.

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