

Quality assurance and economical efficiency in ambulatory surgery The German situation in gynaecological day surgery

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Abstract

In contrast to other countries, gynaecological ambulatory surgery in Germany today is mainly performed in private free-standing units. They perform approximately 98% of all ambulatory operations. A quality assurance programme in gynaecological ambulatory surgery started in the early 1980s and proved the safety of outpatient surgery in experienced hands. Gynaecological ambulatory surgery proved to be far more cost effective than inpatient operations. Independently specialised free-standing units seem to be able to work economically with a high level of quality. Due to the special legal situation in Germany the increasing number of outpatient operations led to a sharp drop in fees for individual operations. Quality assurance consists of many aspects. Most are well established and accepted. Apparently in ambulatory surgery the structural requirements of the operative unit, the organisation of postoperative care, the risk of thrombosis, the risk of infection and other aspects seem to be different to inpatient surgery. Comparative studies are required to investigate these differences. Only then it may be possible to optimise the integration of ambulatory surgery into the health system. © 1998 Published by Elsevier Science B.V. All rights reserved.

Keywords: Quality assurance; Economical efficiency; Germany; Gynaecological day surgery

1. Introduction

Until the early 1980s gynaecological day surgery in Germany mainly consisted of D and C procedures. With the development of endoscopic techniques it then expanded rapidly. Nowadays specialised units are able to perform any kind of operation that can be done endoscopically. In contrast to other countries like the USA, where 85% of all ambulatory surgery takes place in hospitals [5], outpatient operations in Germany mainly (98%) take place in free-standing units. The number of operations has increased within the last decade, although it still remains at a low level compared to other countries.

2. Quality assurance in gynaecological day surgery

In Germany the hospital system and the system of private practice are almost entirely separate. Therefore patients who are operated on in hospitals are normally sent from another gynaecologist. The hospital automatically has to check the indication. This forms a sort of second opinion. Day surgery mainly takes place in free-standing units which developed from specialised private practices. They operate on their own patients as well as on referred patients. Therefore, possible misuse by an uncontrolled widening of indications was thought to be possible.

As day surgery developed outside of the established system of hospital care, it also had to prove its safety. In 1984 gynaecologists in Lower Saxony started a quality assurance programme that focused on complications. At the same time they compared their own

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patients to those who were referred to the centre. After the Federal Society of Ambulatory Surgery (Bundesverband ambulantes Operieren-BAO) was founded it took over the quality assurance programme. In 1995 it received data from 70 centres on more than 34000 operated patients (Table 1) [1]. The percentage of patients referred to the centres increased. The number of major operations like operative hysteroscopies and operative laparoscopies increased. The complication rate stayed low. Hitchcock [3] points out that one of the fundamental questions is whether there is a significant risk of complications after discharging the patient home. In our data postoperative complications seem to rarely happen and are mainly related to minor procedures like cone probe, marsupialisation or breast probes (Table 2). They normally consist of bleeding that is easily noticed by the patient herself. Major operative procedures like operative laparoscopies are associated with rare intraoperative complications. These data suggest that especially laparoscopies in experienced hands can be safely performed on an outpatient basis.

Centres differed very much in size from those operating on a few hundred patients per year up to several thousand operations annually. The rate of complications did not correlate with the size of the centre. These findings coincide with a prospective multicentre study on laparoscopies. In this study 1474 patients were interviewed 1 and 4 weeks after having had a laparoscopy. No conversions to laparotomies occurred, no thrombosis, 2.9% wound infections and 2.4% febrile incidents were registered. A total of 3.7% of the patients were hospitalised for more than 24 h but no readmissions were found [2].

Comparable data from inpatient or outpatient operations in German hospitals are not available.

The data of the quality assurance programme of the BAO were collected every 3 months. The results were analysed and sent to the operative units. They received a comparison of their own numbers to the average of the whole group. In cases of significant differences it is up to the physicians to analyse the situation and to draw conclusions. Some years before a similar voluntary system had been established in perinatology. During this time perinatal mortality in Germany dropped from the average to one of the lowest of the world. It was concluded that quality assurance systems do not necessarily need control and sanctions but that the main effect is to increase people's awareness of the problem of quality. Recently in ambulatory surgery in Germany a similar mandatory system of quality assurance has been established. This also asks for economic data like the number of the personnel involved. The item 'duration of operation' that formerly was thought to be an indicator of complications now figures in the section of economic

data. At the same time the general payment system goes very much on time controls. Therefore it is suspected that the motivation of giving correct data could drop. The new mandatory system could also be misused to control economic data rather than medical quality. Moreover, the system has been working since the beginning of 1996 but until now no results have been given to the involved physicians.

3. The economical situation of ambulatory surgery in Germany

Although day surgery in Germany increased over the decade to 1996, it is still less developed than in other comparable countries. Due to the economic situation this development seems to have stopped in 1996.

After World War II the health system in Germany developed into an internationally incomparable organisation. It is mainly characterised by an almost complete separation of hospital and outpatient treatment

Table 1

An overview of the annual statistics for the quality assurance programme

	1993	1994	1995
Number of operations	23 619	31 060	34 730
Number of centres	57	69	70
Admitted patients (%)	65	67	69
Own patients (%)	35	33	31
Complications (%)			
During operation	0.15	0.13	0.14
Before discharge	0.06	0.1	0.12
After discharge	0.11	0.15	0.12
Transfer to hospital/conversion to inpatient	0.15	0.22	0.1

Table 2

Types of complication in relation to operation

Type of operation	During operation	After discharge
Diagn. Hysteroscopy	0.17	0.07
Open hysteroscopy	0.14	0.0
D and C (diagnostic)	0.15	0.08
D and C (abortus)	0.0	0.08
D and C (artif. abortion)	0.11	0.09
Cone probe	0.06	0.52
Cerclage	0.0	0.0
Amniocentesis	0.13	0.27
Marsupialisation	0.32	0.32
Condylomata ac.	0.0	0.0
Diagn. laparoscopy	0.33	0.20
Oper. laparoscopy	0.33	0.13
Tubal sterilisation	0.18	0.11
Breast probe	0.0	0.26
Other breast operation	0.28	0.0

Table 3
Structural quality

Aspect	Controlling institution	Economically efficient	Cost reduction for operating unit
Operator has finished his specialisation	Medical board	Yes	Neutral
Additional qualifications of the operator	Scientific societies, medical board	Yes	No
Qualification of nurses	Board	Yes	No
Minimal demands to the rooms	Medical board	?	No
Quality circles	No control	Yes	Yes

Table 4
Procedural quality

Aspect	Controlling institution	Economically efficient	Cost reduction for operative unit
Organisation of work	Physician	Yes	Yes
Flow of information (letters, etc.)	Patient, admitting colleague	Yes	Neutral (paid for)
Leading personal	Patients, staff	Yes	Yes
Patient care	Patient	Yes	Basis of existence
Indication for operation	Quality assurance programmes, second opinion	Yes	Almost neutral

Due to the organisation and payment system of the hospitals (hospitals are not paid for the value of their work, but for every day a patient stays hospitalised) day surgery was mainly introduced and developed in independent free-standing private units and other private practices. They perform approximately 98% of all ambulatory surgery in Germany.

In 1992 a new law, the 'Gesundheitsstrukturgesetz' (SGB V) was introduced. Its task was to reduce the costs in the health system. Ambulatory surgery should be one of the instruments to realise this aim. At the same time, expenditures in the different parts of the health system were restricted by introducing global budgets. Hospitals got their own budgets and the whole of all private practices got another budget. With increasing numbers of outpatient operations done by private practices and free-standing private units under this limited global budget the fee for an individual operation decreased and ultimately fell below economically tolerable levels. Thus, today ambulatory surgeons face significant economic problems. They claim that money should follow their increasing amount of work. Insurance companies complain that despite the increasing number of ambulatory operations they can not register any savings in the hospital sector. Unfortunately there is no data available on the number of operations performed in hospitals in Germany. The overall expenses in the hospital sector are still increasing but it is unknown whether decreasing work in operative units coincides with increasing work in other sectors. The law opened the possibility of creating a separate budget to feed ambulant operations in hospitals and private units. Its realisation got stuck in the controversial political discussion.

4. The interrelation of quality and economy

The new German health law focuses on economic efficiency and quality assurance. Economic efficiency compares costs (input) to the benefit (output) of a measure. A developing new economic science, health economy, is analysing the related problems. Until now the output of medical care has been difficult to define or measure. In contrast to this basic definition the law uses the words economic efficiency but in fact it works by limiting expenses.

Secondly the word assurance can be misleading. It suggests a system made to prevent a possible decline of quality. But physicians have always attempted to improve patient treatment. In other words: improvement in economic efficiency may lead to declining expenses in the health system but it can also lead to increasing expenses if the output increases more than the necessary costs. Global cost reduction without defining targets and benchmarks within the health system will most likely reduce the quality of medical care.

5. The differentiation of quality assurance

Quality can not be defined. Most people agree that it is characterised by being something that can be improved. Efforts have been made to differentiate several aspects. It is generally accepted to differentiate output quality, structural quality and procedural quality. Quality assurance is a complex, non-defined system of measurements. Tables 3–5 enumerate various aspects. Many of them are well established and generally ac-

Table 5
Output quality

Aspect	Controlling institution	Economically efficient	Cost reduction for operative unit
Time of recovery	Insurance companies	Yes	Neutral
Duration of postoperative medical care	Insurance companies	Yes	Neutral
Reaching the goal of the operation	Scientific studies, health economy	Not evaluated	No relevance
Statistics of complications	Medical board	Yes	No

cepted. Some are also formally controlled. Looking at control we have to realise that this will most probably focus on easily controllable aspects. Output quality in the sense of reaching the goal of an operation will never be controllable systematically, but will always rely on scientific studies. Looking at the cost effect of quality assurance we have to distinguish between cost effects to the operative unit and to society as a whole. The economic effect of improving quality can be neutral, increase or decrease costs.

Many more aspects of quality assurance than mentioned in Tables 3–5 are possible. Only a few economic effects are examined. Therefore the expected effects partly represent the author's opinion.

All studies in Germany revealed that ambulatory surgery is far cheaper than inpatient treatment. The factor varies from 1–2 up to 1–7 [4,6]. The reasons are not examined. We believe that structural quality problems are the key to explain this observation. In German hospitals a triple hierarchy of physicians, administration and nurses needs to be co-ordinated. Private free-standing units are led by physicians who are entirely responsible for the clinic. They make all the decisions and take all the economic risks. This may enable higher flexibility and better organisation of work in the sense of care for the patient and economic effectiveness.

In a political process of consensus an agreement has been reached to define minimal requirements for the operation rooms and hygienic requirements. The rate of infection, postoperative fever and thrombosis seems to be comparably lower in ambulatory surgery than in inpatient surgery. Comparative data and studies are unavailable. Nevertheless an agreement was politically necessary to guarantee minimal structural quality but it could not be based on clinical data.

As has been described, the quality of results in terms of complication rates has proven to be excellent. The classical programmes of quality assurance in ambulatory operative gynaecology focussed on complications. In these programmes complications have never been defined. For example, a perforation of the uterus al-

though it may not have any clinical relevance is regarded as a complication. Sterilisation patients have to be low risk patients. Nevertheless hospitalisation after a sterilisation is not counted as complication. After the first quality control studies have proven the safety of ambulatory surgery it is questionable whether further benefits can be expected from quality control focused on complication. An alternative could be a booklet to list all major complications and infections in order to discuss them in quality-circles.

Another very important aspect of output quality is the recovery time. In Germany a patient who is not able to work due to illness gets money either from the employer or the insurance company. Ambulatory surgery has proven to lead to far shorter recovery times and shorter times until the patients return to work. These economic effects are even higher than the direct savings in terms of the costs of the operation. The average time for return to work may be an objective, easy to control parameter of the quality of medical interventions.

References

- [1] Brökelmann J, Hennefründ J, Dohnke H. Qualitätssicherung 1995 hinsichtlich der ambulanten gynäkologischen Operationen. *Gyne* 1996;441–443.
- [2] Hennefründ J, Lueken RP, Nugent W, Brökelmann J, Maucher A, Haßkamp T, Dohnke H. Laparoskopien in der Tagesklinik. Eine prospektive Multizenterstudie zur Komplikationserfassung. *Zentralbl Gynaekol* 1996;113–116.
- [3] Hitchcock M. Complications following day surgery: is quality assurance the answer? *Ambul Surg* 1997;5:105–8.
- [4] Metzinger B. Wirtschaftlichkeit und Akzeptanz ambulanter Operationen. *Ambul Operier* 1996;163–166.
- [5] Kozak LJ, Hall MJ, Pokras R, Lawrence L. Ambulatory surgery in the United States 1994. Advance data from vital and health statistics, No. 283. Hyattsville, Maryland: National Centre for Health Statistics, 1997.
- [6] Zentralinstitut für die kassenärztliche Versorgung. Wirtschaftliche und medizinische Aspekte des ambulanten Operierens. Wissenschaftliche Reihe Band 47. Deutsche Ärzteverlag Köln, 1992.