

anism that determines the well-known adaptive response in the two-dose case and that it can be triggered by high and low LET radiations as well as a variety of other stress-inducing agents such as hydrogen peroxide and chemotherapeutic agents. Little is currently known about the precise nature of this underlying mechanism, but there is evidence that it operates by increasing the amount and rate of DNA repair, rather than by indirect mechanisms such as modulation of cell-cycle progression or apoptosis. Changed expression of some genes, only in response to low and not high doses, may occur within a few hours of irradiation and this would be rapid enough to explain the phenomenon of induced radioresistance although its specific molecular components have yet to be identified. There may be a benefit in treating intrinsically radioresistant tumours with very small doses per fraction, to take advantage of HRS clinically.

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The surgeon as a prognostic factor in decision making in breast cancer

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The basic treatment of breast cancer is surgery. The surgical procedure aims at three objectives: 1) the intention to cure, 2) staging, and 3) provide variables for a prognostic index. The surgeon is the prime figure in achieving those goals.

For all three purposes axillary dissection is required. If the surgeon fails in performing a meticulous axillary dissection, the decision making regarding adjuvant therapy is badly influenced. In Denmark, low risk patients are treated by loco-regional therapy alone and only high risk patients receive systemic therapy. The decision making is mainly based on knowledge of axillary nodal status. Thus, inaccurate staging puts the patient at jeopardy of undertreatment.

In Danish DBCG nationwide protocols axillary dissection is compulsory as a staging procedure for accurate selection of patients for adjuvant trials. Further, the method is used for prognostic information as well as for regional control of the disease. No subset of patients with invasive cancer has been selected for no axillary surgery.

In this presentation the frequency of node positivity by tumour size is reported. Further, the calculated probability of false negative nodal staging and its consequence for survival is analysed. Moreover, in DBCG protocols the correlation between the number of examined lymph nodes and the rate of axillary recurrence has been investigated in subset of patients with or without radiotherapy to the axilla.

Conclusion: Meticulous surgery is necessary for proper decision making in breast cancer treatment.

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The surgical procedure and the surgeon as a prognostic factor in gastric cancer

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Purpose: There is no consensus about the extent of surgical treatment of patients with operable gastric cancer: lymph node dissection limited to the pregastric nodes (D1), the present Dutch standard, or extended to the regional nodes (D2). This issue is addressed in a Dutch multicenter (78 centers) randomised trial.

Methods: Design and short term results were reported previously (1); the present paper will focus on survival and relapse risk till 5 years (the present abstract restricted to RO cases). Mean number of dissected lymph nodes was 15 in D1 and 31 in D2. Also issues concerning the individual surgical performance are addressed.

Results: From August 1988 until July 1993, a total of 1078 patients were randomised preoperatively: 639 in each group. Of these, 82 patients were ineligible, 285 patients were non-curative (R2) and 78 microscopically non-curative (R1). The remaining 633 patients underwent a RO resection (339 D1 and 294 D2). Median age and male-female ratio were equal in both groups. Also the distribution of site of tumour, of T-stage and of node

negative/positive tumours was similar in both groups. Median follow-up duration for the patients alive is 54 months (range 29–83). Overall rates and relapse risks (44 post operative deaths excluded) of RO patients are summarized in Table 1.

Conclusion: A conventional comparison with a logrank test does not give rise to significant differences in survival and relapse risk D1 and D2 resections. However, the underlying assumption of a logrank analysis (proportional hazards) does not seem to fit very well. A clinically relevant benefit for D2 with respect to relapse risk eventually translated into survival benefit at future follow-up analyses cannot be excluded. On the basis of our present results we cannot substantiate the benefit of extended lymphadenectomy in general Dutch hospitals by general surgeons. There was no significant difference observed between volume related morbidity/mortality/survival however there was a substantial variation among reference surgeons.

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The surgeon and surgical procedure as prognostic factor

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At least since 1978, when Fielding was the first to publish data on differences between various surgeons concerning complications after operations for colorectal cancer, it is well realized that the surgeon is a prognostic factor in the postoperative course. Later on, data were available that surgeons also may influence longterm outcome after surgery for colorectal cancer. In the eightieth, in Germany a patient care study was performed with seven institutions participating. Primarily, the aim of this study was not to identify the influence of surgeons on outcome. However, together mainly with tumor related items postoperative complications, anonymously the surgeons and the institution were documented, too. In addition, all patients were followed up at least for five years.

As a result, concerning logoregional recurrence, the institution was identified as an independent prognostic factor. Furthermore, in three institutions with more than 100 operations performed during the recruitment period, surgeons could be identified as a prognostic factor, too.

The question arises, what the reasons for these differences might be. The factors to be discussed are centralisation and specialization including the volume of surgery, but in addition, the influence of organisation, amongst these the impact of quality management.

From the data available it can be concluded that centralisation and specialization and volume of surgery as well do not guarantee high quality by itself. However, a certain volume may be essential. It seems, however that the adherence to the steps of quality management are the most important factors. A special interest in as special field may be the basic prerequisite.

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The surgeon as crucial factor in reducing mortality and morbidity in pancreatic resection for cancer

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Purpose: Recent data shows a significant drop in mortality for major pancreatic resections for cancer. In a prospective study we evaluated possible causes for the reduced mortality in a specialist center.

Methods: 152 consecutive patients with pancreatic or periampullary cancer were included preoperatively in a prospective standardised protocol consisting of preoperative investigation, operative technique and postoperative care.

Results: 88 men and 64 women with a mean age of 67 years underwent pancreatic resection. 34 patients had significant preoperative risk factors. (ASA III or IV) Median operation time was 448 minutes and mean blood loss 1.6 units. Mortality was 0.6% (1/152) while postoperative complications occurred in 32 patients (21%). Major complications occurred in 8 patients (5%) of whom 4 patients (3%) needed reoperation.

Conclusion: In a specialist center, even patients with preoperative risk factors can undergo major pancreatic surgery with low mortality and morbidity. Standardised preoperative assessment and operative technique combined with experience may be responsible for the decrease in mortality and morbidity.

Table 1

	Overall survival						Relapse risk					
	1 yr		3 yrs		6 yrs		1 yr		3 yrs		6 yrs	
	N	%	N	%	N	%	N	%	N	%	N	%
D1	299	88	197	62	71	52	274	14	191	33	62	44
D2	237	81	164	59	66	62	228	12	158	31	62	38