

CORRESPONDENCE

Deaths Following Cholecystectomy and Herniotomy

by Ulrike Nimptsch, Prof. Dr. med. Thomas Mansky in issue 31–32/2015

Reservations Regarding the Suitability of the DRG System

In our opinion, the hospital discharge data (diagnosis related group [DRG] statistics) that provide the basis for the analysis (1) are not sufficiently suitable for assessing the actual morbidity and mortality after herniotomies. Most hernias are found in the catalogue of outpatient procedures according to §115b SGB [German Social Code Book] V. Outpatient hernia repairs account for about 20% of all hernia repairs in Germany (2). Similarly, the different surgical techniques with their completely different risk profiles were not taken into account. Primary hernias can differ enormously and are therefore difficult to represent in the DRG system (3). In some instances, more than 60 different surgical procedures are subsumed under one DRG, but in Europe, there are only three or four different ways of coding herniotomies in DRGs on average. This does not seem sufficient for generating relevant data (4).

The authors' conclusion that the preoperative identification of risk could be optimized is consequently only partly valid. In the DRG-based analysis, it is impossible to differentiate between elective procedures and emergency operations. A highly acute incarcerated hernia, which according to the literature presents itself in about 5% of all cases (2), requires immediate action and is associated with substantially higher fatality rate than an elective procedure, which allows for individual preoperative optimization, as suggested. However, in rare cases, so-called watchful waiting is associated with a higher risk for hernia patients, but results in a different DRG classification in inpatients, which is not taken into account in the presented data.

It is our view that the DRG system as a hospital reimbursement system that was introduced in the context of an economy drive in Germany's healthcare system (3) still does not allow valid conclusions about clinical procedures, despite many attempts to optimize it. In our opinion, hernia registries are a more appropriate instrument.

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Outpatient Procedure

In the United States, inguinal hernias and femoral hernias have been treated on an outpatient basis in most cases (92%) for decades now. Even in the former German Democratic Republic, the importance of outpatient surgery was recognized, and in the Veneto province in Italy, the proportion of outpatient operations has risen to comparable levels (1). Only in unified Germany, 66.78% of inguinal hernia repairs are undertaken as inpatient procedures and only 33% on an outpatient basis, according to Jähne (2). Nimptsch and Mansky (3) conclude that death rates for inpatient herniotomies could be lowered. Possible causes of death include complications (perforation, repeat laparotomies, suture failure) that have been described especially in the context of laparoscopic procedures. Recent national registry studies from Scandinavia (4) have confirmed that laparoscopic herniotomies have a higher risk for severe complications than open herniotomies: an extra-abdominal condition turns into an intra-abdominal condition. In view of the fact that in our neighboring countries (the Netherlands, United Kingdom, Denmark, Sweden) the frequency of laparoscopic operations is lower than in Germany, the question that arises is what distinguishes German patients from those of other countries? When taking into consideration the overall economic efficiency of our hospitals, of the complications, and of death rates—maybe less would be more?

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Postmortem Examination in Case of Death

During my career, deaths following cholecystectomy and herniotomy were rare in the 10 hospitals that I supervised. However, an unwritten law among surgeons was that any such deaths had to be investigated, and postmortem examinations had to be conducted. Until 2006, this showed in double-digit proportions substantial deviations from the diagnoses made when patients were alive. This was then the subject of regular discussion.

In the article by Nimptsch and Mansky (1), I read that in 2957 (1316) patients who died, postmortem examinations were documented for only 13 (7). The autopsy rate was 0.4% (0.5%). Which conclusions should we draw for a total of 4273 deaths, of which only 20 were closely investigated? It seems rather a long shot to me to use statistics to draw robust conclusions from this. My conclusion would be to conduct a careful postmortem examination on each of those patients who died from such a small procedure and to discuss the findings with colleagues. This would yield robust material and, in my opinion, better statistics for our patients' benefit.

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Administrative Data Should Be Questioned

Hospital discharge data (=administrative data) have been used for some time in order to measure the quality of hospital treatments. In this context, Mansky in a recently published review article pointed out the good validity of administrative data. By contrast, a systematic qualitative review found that the sensitivity of quality indicators—drawn from administrative data—is usually poor (1). This is also the case for risk scores, which take into account a number of comorbidities.

On this background, Nimptsch and Mansky (2) write that national hospital discharge data in Germany provide an opportunity—because of their completeness—

for analyzing even rare events, such as deaths after cholecystectomies and herniotomies. The authors conclude that death rates after such procedures could be reduced.

The clinical epidemiologist Richard Lilford was one of the first to point out how poorly suited deaths are as a measure for assessing the quality of hospitals. Hogan et al. concluded (3) that “any metric based on mortality is unlikely to reflect the quality of a hospital.” This prompted *The BMJ* to publish an editorial alongside the research, entitled: “The death of death rates?” In our opinion, the list of suggestions made by Nimptsch and Mansky is lacking one crucial item: adequate staffing levels (4).

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In Reply:

Witzel and Lorenz point out an often encountered misunderstanding relating to the data used. The so-called DRG data include for each discharged case not only the diagnosis related group but all diagnosis and procedural codes. In our evaluation we did not refer to DRG groups, but we analyzed the treated cases on the basis of coded procedures and diagnoses, as shown in eTable 1 (1). The argument that hernia procedures are difficult to capture, as a DRG subsumes more than 60 different surgical procedures, does therefore not apply to our article. Incarcerated hernias, as mentioned by Witzel and Lorenz, were indirectly accounted for, since herniotomy patients in whom a bowel operation had been coded for the same inpatient stay were excluded from our analysis.

Witzel and Lorenz further point out that we analyzed only inpatient procedures in our study. If outpatient herniotomies were to be included into the denominator, total mortality—assuming that outpatient procedures would incur zero mortality—would be lower (assuming