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Error in Medicine

Eric J. Cassell

A NINETY-YEAR-OLD MAN who had been healthy and active was awakened in the middle of the night by the urge to urinate. When he did so, he was frightened to discover the toilet bowl turn red with blood and clots. He telephoned his doctor and was admitted to the urology service of a modern medical center. The initial tests and X-rays revealed an unusual form of cancer of the bladder.

In the morning, the man's physician helped him choose a specialist. Because the case was unusual and interesting, he suggested that the attending surgeon be a man much favored by the residents of the service, for then the case would provide maximum teaching benefits and the patient receive good care.

Pre-operative evaluation revealed the man to be in relatively good health except for mild hypertension and varicose veins. It was suggested that he receive small doses of heparin during and after surgery to prevent pulmonary emboli, a complication common in post-operative bedridden patients of his age. Such therapy was new at the time and viewed by the surgeons who had had no experience with it as exposing the patient to a risk of bleeding, despite the published evidence to the contrary.

The operation (partial removal of the bladder) went extremely well and offered promise that cancer would not soon recur or be the cause of death.

The first post-operative day was uneventful except that the

patient had considerable pain. On the second day, morphine was given because of the severe pain, and that evening the patient was found by the internist to be stuporous and breathing poorly. He wrote a note on the chart suggesting that morphine be discontinued because of its depressant effect and told the nurse not to give the next dose until the resident had seen the note and stopped the morphine. On the next day, still receiving morphine, the patient was neither alert nor breathing well. The internist discontinued the morphine, and the discussion with the surgical resident that followed was sharp and angry on both sides. The following day was Sunday and the internist did not see the patient. That night he was notified that the patient had been transferred to the intensive care unit.

A review of the chart revealed that the morphine had been restarted in a smaller dose and that the patient had gone into respiratory arrest and shock. The resident (the same one who restarted the morphine) had worked long and vigorously to re-establish effective respiration and blood pressure and correct the associated metabolic abnormalities. Blood chemistries revealed that the patient's kidneys were not functioning well, but the report of similar tests done when he was first admitted could not be found for comparison.

The attending surgeon could not be reached (and had not responded to earlier calls). His attraction for the house staff, it turned out, was not only his competence but also the fact that he often turned his cases over to them and then stayed out of the way.

In the intensive care unit, the patient was appropriately monitored and his respiratory problem effectively managed. The physician in charge of the unit decided to start peritoneal dialysis to take over the function of the patient's kidneys, despite the fact that the degree of kidney failure was not severe nor endangering him.

Although the patient was able to leave the intensive care unit, his renal function worsened and did not return. Numerous consultants saw the patient and the case was discussed frankly with the family, and, to the degree possible, with the patient. Repeated peritoneal dialyses were required which, although ultimately seen as pointless, were also seen as difficult to discontinue. He de-

veloped massive swelling of the lower extremities, interpreted as thrombosis of the inferior vena cava. Ultimately the peritoneum became infected and he finally died of pulmonary emboli and pneumonia. Autopsy confirmed the thrombosis of the inferior vena cava, peritonitis, pneumonia, and pulmonary emboli.

The case is illustrative of the many facets of medical error. It was marked by mistakes throughout, except for late in the illness. It is an example of what may be a medical maxim. In a difficult case, when errors start, each will give rise to more. Were a malpractice suit to be brought (that did not happen because the family was grateful for the attentive care), the jury would undoubtedly have found for the plaintiff. The suit could have been based on more than one technical error, easily proven, and virtually impossible to defend.

The small dose heparin regimen should have been employed to prevent thrombosis. Since that opinion had been entered on the chart by the medical consultant, when the surgeons decided against the heparin, their opinion and the reasons for it should have been entered on the chart. The morphine should have been discontinued and certainly should not have been restarted. The events leading to the respiratory arrest should have been documented in the doctor's notes. The absence of initial laboratory results entered on the chart would have attested to inadequate pre-operative evaluation of the function of the remaining kidney. There were undoubtedly other errors which I have forgotten. As many technical errors as there were, there were also errors of judgment. They ranged from the initial choice of operation, to the decision to start peritoneal dialysis. In those instances, perhaps no technical mistakes were committed, but clearly a reasoned analysis of the case and the arguments for or against alternative actions were lacking at each step.

Although fortunately the example does not represent a common occurrence, it is typical enough to provide the basis for a closer look at the whole phenomenon of error in medicine.

To start with, we can dismiss some excuses. The case was not so difficult or unusual that it presented new technical problems. Although it ultimately became extremely complicated, that occurred as a result of the errors and was not their cause. Carelessness did not cause the mistakes except perhaps for the

