

# On leaping from the bridge and the humble nasogastric tube

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● As a senior (in age) surgeon, I was asked to review the record of a patient's death. An elderly woman underwent colonoscopy, which resulted in a perforation of her colon. The complication was promptly diagnosed and treated with an operation, but she developed sepsis and died.

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I reviewed the moderately thick hospital record. Because the patient died within a week of admission, the chart did not reach the mammoth size typical for patients who linger a few weeks in the intensive care unit. I noticed how the character of patient charts has changed recently—they have lost their soul. Everything is dictated, transcribed, and electronically signed. There are multiple laconic entries, such as “I certify that I personally...reviewed the images,” or “examined the patient” or “supervised the procedure.” Here and there blank spaces interrupt the narrative where the dictated text was not understood. Handwritten notes are becoming rare, and when they exist, they are increasingly cryptic and illegible, perhaps entered by a generation more skilled with the keyboard than the pen.

I read every word and each sentence: an elderly lady, admitted to a major urban teaching hospital with left lower abdominal pain, change in bowel habits, nausea, loss of weight, and no bowel movement since 2 days prior to admission. Abdominal radiographs showed multiple intestinal air-fluid levels. The radiologist wrote “intestinal obstruction.” The emergency department physician noted “intestinal obstruction versus ileus—get surgical consult.” The surgeon entered “ileus versus intestinal obstruction—admit medicine.” (I asked myself why “admit medicine,” isn't intestinal obstruction or ileus best managed by surgeons?) An intern in medicine wrote “ileus versus obstruction, possible acute diverticulitis, get gastrointestinal [GI] consult.” The GI physician noted “possible left malignant colonic obstruction, get repeat abdominal radiographs, will colonoscope after ileus subsides.” Repeat abdominal radiographs showed “multiple small and large bowel air-fluid levels. Recommend gastrografin enema.” The gastrografin enema showed “apple core lesion in sigmoid colon” and “recommend colonoscopy” was noted.

Three days after admission, the patient underwent a colonoscopy, during which she started to retain air and get abdominal distention. Then she vomited and “arrested.” Cardiopulmonary resuscitation was “successful,” but the chest radiograph demonstrated evidence of a massive bilateral aspiration pneumonia and free intraabdominal air. Laparotomy disclosed colonic and small bowel dilatation above an obstructing diverticular mass (and a perforation below it), which was resected. During the operation, a nasogastric tube was passed to decompress the massively distended stomach. How, I wondered, could

they forget the humble nasogastric tube until the very end? Might it have made a difference?

*The visiting surgeon might wonder why amidst consultations, dictations, recommendations, clinical pathways, and practice guidelines, the humble and life-saving nasogastric tube was neglected.*

About 100 years ago, Lord Berkeley Moynihan of Leeds understood that “the mechanical impediment to the onward flow of the intestinal contents is not the cause of the serious condition of the patient but that it is the overloading and distention of the gut above the block... which call for instant relief.”<sup>1</sup> Around the same time, John B. Murphy of Chicago suggested that the obstructed “intestine becomes filled with fluids...and regurgitation of this into the stomach requires careful gastric lavage before operation, for the reason that the regurgitated contents not only depress the patient, but...may cause acute gastric dilation.”<sup>2</sup> But it was Owen H. Wangensteen of Minnesota who, in a series of studies published roughly 70 years ago, laid the foundation for the modern management of intestinal obstruction. Introducing routine nasogastric decompression of the obstructed bowel, Wangensteen revolutionized the management of this condition, which until then was frequently lethal.<sup>3</sup>

In reviewing the record, I constructed a disturbing scenario. The patient arrived for her colonoscopy with a persisting and untreated (no nasogastric tube) intestinal obstruction. During colonoscopy air was

pumped into the colon and above the obstruction. This added to the distention by further increasing her intraabdominal pressure and decreased venous return to her heart. Patients who are fluid depleted poorly tolerate increased intraabdominal pressures because they cannot compensate by increasing cardiac output. It is impossible to assess whether the patient was well hydrated because her urine output was not monitored. The patient then vomited because of the increasing abdominal distention, pain, and the nondecompressed, obstructed intestine. Because she was sedated, she was not able to protect her airway, and her full stomach emptied into the trachea and both lungs. What happened after that was all too predictable.

How sad if this scenario were true. A patient in a modern North American hospital with a clinical diagnosis of intestinal obstruction, being treated by board certified physicians, emergency department specialists, radiologists, gastroenterologists, and surgeons (all of whom would be billing many thousands of dollars from Medicare) should have received a nasogastric tube, which costs just a few dollars.

In the era when nasogastric tubes were not used for intestinal obstruction, the British surgeon Fredrick Treves wrote: “It is less dangerous to leap from the Clifton Suspension Bridge than to suffer from acute intestinal obstruction and decline operation.”<sup>4</sup> Is what he wrote true even today? As this unfortunate patient’s course seems to show, it surely is. And yet on paper everything looked particularly neat. Had a surgeon from rural Africa reviewed the medical record, they may have been impressed with its organization and marveled at our hospitals and the buzz words of “quality,” “professionalism,” or “JCAHO requirements” that are so much in vogue. But the visiting surgeon might wonder why amidst consultations, dictations, recommendations, clinical pathways, and practice guidelines, the humble and life-saving nasogastric tube was neglected.

There is a systemic problem, which this story illustrates, and I don't think it will be solved by adding more "quality" modules to physicians' continuing medical education or by hiring more "quality" functionaries who will add more forms to an already bloated chart. So much of quality comes down to the teaching of basic clinical skills, reemphasizing them until such time as the evidence tells us they are redundant. Even if the team approach is almost the rule in a complicated scenario such as this, this patient badly needed a physician—her surgeon. I wish I had all the solutions, but I don't. Meanwhile, in my own practice, if my patient has what I suspect is intestinal obstruction, they will lie in bed with a tube passing through their

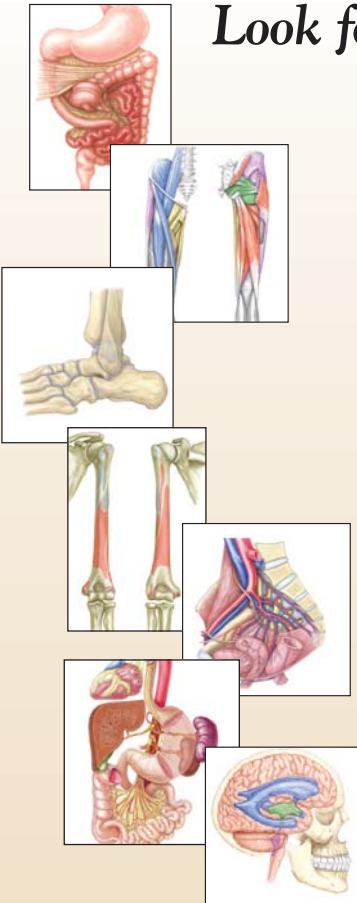
nostrils, and it will be one that I will have passed myself. There will be no leaping from bridges. Sir Zachary Cope's sage advice (in verse, no less) seems more applicable than ever: "On complicated test we much rely, and use too little hand and ear and eye."<sup>5</sup> ●●

#### Acknowledgment

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#### References

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