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Editorial

Infection wounds in colorectal surgery. Where is the reality?

Infección de la herida quirúrgica en cirugía colorrectal. ¿Dónde está la realidad?

Surgical site infection (SSI), previously known as "surgical wound infection," is the third most common cause of hospital-acquired infection and the most common cause in patients undergoing surgery. We are extremely aware of the significant impact that this disease has on patient morbidity and mortality, and of the high costs that it incurs.

SSI in patients who have undergone colorectal surgery has been the subject of special study for many years. Despite this fact, there are still large discrepancies in accounts of its true incidence rate, and we find published figures that range from 3% to 30%.[1] In addition, there is no clear consensus on what factors contribute to SSI in patients who have undergone colorectal surgery.

Health authorities understand this important problem, and over the last few years, in partnership with various related scientific societies, they have been setting up specific programmes controlling and recording SSI around the world. Colon and rectal resection surgery is one of the main targets. It is even a highly regarded quality indicator in surgical divisions.

More than 20 years ago, the Centres for Disease Control and Prevention (CDC) formulated the definition of SSI that came to be adopted by practically all infection control worldwide.[2] The same institution launched the programme named National Nosocomial Infections Surveillance (NNIS) with the purpose of monitoring nosocomial infections in the United States, and established a patient stratification system based on points which became known as the NNIS index. This index considers the American Society of Anaesthesiologists (ASA) score, the lesion type, the duration of the surgery, and whether or not the surgery was done laparoscopically.[3]

The problem began to arise when the first data began to be published: while according to medical literature, SSI rates fall between 26% and 43%, the CDC-NNIS cites figures below 12%.[4] In Spain, we have some very basic data that gives us a rough idea of our current situation. For example, Spain's National Project for the Clinical Management of Colorectal Cancer Treatment Procedures cites SSI rates of approximately 20%, but it separates SSI from anastomotic leak and intra-abdominal infection (which is incorrect). For this reason, SSI rates may be even higher.[5]

Furthermore, it has been shown that percentages vary according to how SSI is defined. A prospective observational study including more than 4000 patients who underwent operations at the same institution showed a high level of disparity between SSI percentages depending on the definition that was used (CDC, NINSS, or ASEPSIS scores, or exclusively based on the presence of purulent exudate). These percentages may vary between 6.8% and 19.2% depending on the use of one criterion or another.[6]

Another aspect to be taken into account is the potential absence of SSI records following hospital discharge.[7]

The general impression is that current SSI indexes for colorectal surgery are higher than those published by the CDC-NNIS. Moreover, medical literature contains multiple published articles about cases in which specific control programmes were implemented in order to reach those figures, but the CDC's recommended limits were never reached.

So, what is happening here? Where does the error lie? Should we adopt these figures as a goal that must be attained, or should we establish our own national standard?

The large degree of variability in NNIS data may be due to various factors: how SSI is defined, the staff member who declares a case of infection (nurses vs surgeons), the follow-up periods and post-op case inclusion periods (14 vs 30 days), the inclusion of some procedures and exclusion of others, etc. Surgeons do not fail to notice how simplistic the index is. It does not consider multiple parameters that have been shown to be very important for developing the disease, such as the patient's nutritional state (obese vs malnourished) and the condition requiring the operation. Likewise, a high body mass index and intraoperatory hypotension are independent predictors of SSI in some studies.[7]

With this in mind, what can we do? The solution lies in raising awareness not only on an individual level, but on an institutional level as well. This way, scientific societies will be working alongside health administrations to implement an

ambitious SSI registry programme for colorectal surgery. To this end, we will need to form multidisciplinary commissions that will establish common control and recording procedures to avoid variability and dispersion. Unlike the NISS index, which is based on voluntary, personal notification, this record must be mandatory in nature. At the beginning, the best scenario would be to gain the commitment of a few centres representing the entire country, and obtain universal commitment at a later time.

There is no doubt that local figures will be improved and drawn closer to reality through each surgeon's involvement in his/her own casuistics when auditing declared cases of infection, and by establishing two-way dialogue with SSI control authorities.

We are certain that the future will bring about a decrease in these figures as a result of completing many more procedures using minimally invasive techniques, implementing multimodal rehabilitation programmes, etc. At the same time, however, comparing figures and their stratification using such a simplistic index will only become more difficult.

Isaac Asimov once said, "*Denying a fact is the easiest thing in the world. Many people do it, but the fact is still a fact.*" Therefore, if we believe that the current paradigm does not come close to reality, we should substitute it with another that would enable us to determine what SSI's true situation is with respect to colorectal surgery. And this leaves us with a lot of work yet to do.

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