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Reply to "Antibiotic prophylaxis in inguinal hernia surgery"☆

Respuesta a «Profilaxis antibiótica en la cirugía de la hernia inguinal»

We are grateful for the authors' comments on antibiotic prophylaxis in inguinal hernia surgery[1] in relation to the recommendations made in the Executive Summary of the Consensus Document from the Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica (SEIMC) [Spanish Society of Infectious Diseases and Clinical Microbiology] and of the Asociación Española de Cirujanos (AEC) [Spanish Association of Surgeons] on antibiotic prophylaxis in surgery published in EIMC, and[2] because the discussion of these controversial aspects deepens our knowledge.

It is true that generalisation of the use of prophylaxis in open surgery for inguinal hernia may lead to an excess use of antibiotics, and so antibiotic prophylaxis must be individualised depending on the risk for each patient, as discussed in the introduction of the consensus document.[2]

In the full online version of the document (doi:10.1016/j.eimc.2020.02.017)[2] we argued the use of prophylaxis in hernia surgery as follows: "There is controversy about prophylaxis in hernia surgery due to the contradictory results of various meta-analyses. Since 2007, various meta-analyses have discovered a protective effect of prophylaxis in open hernioplasty. In 2016, another meta-analysis advises against routine prophylaxis, but finds that it is indicated if there are risk factors such as recurrence, advanced age, immunosuppression, drainage or if a prolonged surgical time is anticipated. A meta-analysis in 2017 demonstrated the superiority of cefazolin and beta-lactams/beta-lactamase inhibitors over placebo with a single preoperative dose, but not with cefuroxime and fluoroquinolones, with no differences between each of the antimicrobials used. Regarding the laparoscopic route, several studies have obtained significantly lower rates of surgical site infection (SSI). There is also a lower rate with the laparoscopic route in incisional hernia or eventration. The European Association for Endoscopic Surgery (EAES) believes that there is no evidence to support the routine use of prophylaxis in laparoscopic hernioplasty and the European Hernia Society (EHS) believes that in this case the NNT goes to infinity. Based on the available evidence and given the difficulty of predicting any of the risk factors in the preoperative period, prophylaxis is recommended in open inguinal hernioplasty and herniorrhaphy and in the rest of abdominal hernioplasties (by implication from the evidence in inguinal hernia)."

We all agree that, for a clean, scheduled surgery, in a young patient with no risk factors, where a surgery duration of 20 min is expected, antibiotic prophylaxis would not be required. It is true that some risk factors (bilateral or recurrent hernia, advanced age, diabetes, obesity) can be detected during the preoperative visit, and although the surgical time cannot be predicted, it can be estimated based on these factors. In addition, the impact of infection in the presence of a prosthesis must be taken into account. Only for this would it be indicated, above all in the presence of risk factors given the possibility of having to remove it.

In the meta-analysis by Erdas et al. referred to by the authors[3] the use of prophylaxis is discouraged because there is only a decrease in the incidence of superficial and non-deep infections. They excluded studies in which laparoscopic surgery, herniorrhaphy without prosthesis placement, emergency surgery and children were involved. They also excluded two "outliner" studies that favoured the use of prophylaxis; one because an older population with diabetes was included, and the surgery was mostly performed by residents[4] and the other because the interventions were performed by residents (100%), frequently left drainage (22.3%) and average surgical time was longer (63 min).[5]

The works by Morales et al.[6] and Oteiza et al.,[7] with some methodological limitations include a young population, with a mean age of 54.4 and 57.1 years respectively, a mean surgery time of 34 and 40 min, respectively, an ASA I-II in the majority of the cases, without referring to other risk factors or obesity. Interventions are performed by experienced surgeons, the use of drainage and recurrent hernias are excluded (only 7% in Morales et al.) and bilateral.

A prospective record conducted in Germany, Austria and Switzerland between 2009 and 2014, which included 85,033 procedures (56.7% laparoscopic), in which antibiotic prophylaxis was administered in 71.54%, found in the subgroup of open surgery patients that SSI was independently associated with not receiving surgical antibiotic prophylaxis, to the ASA index (the higher the index, the greater the risk) and the size of the hernial sac.[8]

Therefore, with current data, antibiotic prophylaxis cannot be discouraged in open surgery with mesh implant, especially in the presence of risk factors. Obviously, those centres with good adherence to preventive measures (not shaving, asepsis of the skin with chlorhexidine. . .) where the incidence of infections is very low in their surveillance programmes for surgical infection could do without it.

Conflict of interests

The authors declare that they have no conflict of interests.

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