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Prediction of SSI in Spinal Surgery

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In 2011 in the Department of Traumatology and Orthopaedics, Peter the Great Clinic, St. Petersburg, we carried out a study on the search of predictors of SSI. Patients of age group from 20 to 85 years old ($57,1 \pm 9,4$) underwent spinal surgery (N=325). Evidence on retrospective group (N=177) of patients without infectious complications was compared with data on patients who had local purulent complications within one year after the operation (N=36). The study outcomes resulted in design of training scaffold to create a mathematical prognosis and algorithm for prevention of complications in patients who underwent surgery on the Spine. 17 criteria for prognosis were identified for the development of infectious complications in the surgical intervention zone. Each criterion we discovered was quantitatively evaluated (lower -14 indicated a high risk in SSI, from -14 to +14 as a medium risk, higher than +14 – high risk). It brought us to the distribution of patients in accord with their risk group and maps the prevention measures for the group of patients with high risk. While trialing the offered approach to the prognosis and prevention algorithm, in a prospective study (N=112) with a follow-up period of one year after the operation we found a significant reduce in the incidences of purulent-inflammatory complications in the surgical wound compared with the frequency in the retrospective study group from 16.9% to 9.8 % including deep infection of the area of surgical intervention de-creased from 4.2 to 1.8%.

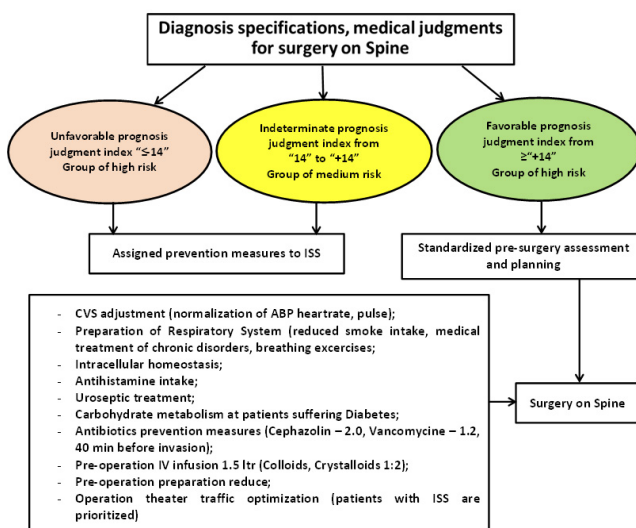


Figure 1: Algorithm of SSI prevention before spinal surgical treatment

Biography

Alexandr Nikolayevich Tkachenko has his expertise in treatment of purulent complications after traumatological and orthopaedical surgeries. His is passionate about de-livery training for young doctors to enrich their qualifications and increase their treatment outcomes. He has strong scientific and practical interest in the field of prediction and prevention of complications in traumatology and orthopaedics. Since 2016 the author published outcomes on his research carried out in one of the largest clinics of north-western region of the Russian Federation.

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