Artificial Intelligence in Colorectal Surgery Multidisciplinary Team Approach – from Innovation to Application

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Abstract:

Objectives: Artificial intelligence (AI) has played a novel role in aiding healthcare system functions and enhancing the patient experience. Multidisciplinary teams (MDT) have become integral to disease and management planning, especially with the rising ageing population and the scarcity of sufficient resources. Our objective is to gather evidence on the impact of AI on colorectal MDT, as well as its drawbacks and merits.

Methods: Electronic searches were performed on PubMed and Cochrane databases, with no date limit. The contemporary and future applications of AI within the surgical practice, including big data analytics and clinical decision-support systems, were included. Search terms were charted to MeSH terms combined using Boolean operations and used as keywords. Papers were selected based on title and abstract.

Results: The integration of AI within the multidisciplinary team (MDT) approach and its potential influence on clinical decision-making from the preoperative phase to the development of tailored treatment algorithms, as well as its support for clinical decision-making, assessment of complication risk, prediction of surgical outcomes and survival, remain relatively obscure. Data on these aspects are limited, and AI's application in colorectal surgery is still emerging.