Surgical management of locally advanced, head and neck cancer

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Objectives: This study was to 1) explore the value of modern surgery in multidisciplinary team (MDT) of head and neck cancer (HNC), 2) elaborate the surgery development in HNC including radical treatment at the beginning, salvage surgery of the late recurrence or palliative patients, repair and reconstruction of defect and function, 3) preliminarily discuss the application of modern techniques to HNC, such as computer aided design and manufacturing (CAD/CAM), 3D printing technology and virtual real (VR).

Methods: The medical records of HNC patients, who experienced MDT consultation since the past 15 years in our hospital was collected. The value of surgery in MDT, especially the status of surgery in advanced and recurrence HNC treatment, was retrospectively analyzed. The application of modern techniques to HNC was also preliminarily discussed.

Results: Compared with the previous single-disciplinary model, MDT has greatly improved the quality and optimized the process of diagnosis and treatment of patients with HNC. MDT is beneficial to the correct implementation of the stratification strategy and individualized therapy, which makes the practice of comprehensive treatment more reasonable and operable. Surgery is the initial radical treatment of most of HNC. The salvage surgery and the repair and one stage restruction of defect and function after radiotherapy and chemotherapy have irreplaceable advantages. Modern science and technology can help to improve the surgical efficiency, safety and treatment accuracy.

Conclusions: MDT can maximize the advantages of various disciplines and the collaboration of multi-disciplines, which is meaningful for HNC patients to be standardized and individualized treated. Surgery, especially salvage surgery and reparative and reconstructive surgery, plays an irreplaceable role in the comprehensive and individualized diagnosis and treatment of HNC patients. CAD/CAM, 3D printing technology and VR can improve the surgical efficiency, safety and treatment accuracy.

Key words: Head and Neck Cancer, Comprehensive Treatment, Multidisciplinary Team(MDT), Salvage Surgery, Reparative and Reconstructive Surgery, Precision Surgery