

Transoral Robotic Surgery for Tonsillar Cancer

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Objective : Conventional surgical approaches for tonsillar carcinomas have a great risk for developing treatment-related morbidity. To minimize this morbidity, transoral lateral oropharyngectomy (TLO) using the robotic surgical system was performed, and the efficacy and feasibility of this procedure was evaluated.

Methods : TLO was performed using the da Vinci surgical robot (Intuitive Surgical, Inc., Sunnyvale, CA). It consisted of a surgeon's console and a manipulator cart equipped with 3 robotic arms. The surgeon is provided with 3-dimensional magnified images from the endoscopic arm and can control 2 instrument arms for delicate operations from the console.

Results : Safe resection of tonsillar carcinoma was possible with the 3-dimensional magnified images. When proce-

eding with resection of the buccopharyngeal fascia, we could prevent damage to the carotid artery, which is located posterolateral to the tonsillar fossa, since the joint at the distal part of the robotic arm can be bent freely from side to side. By using the 30 degree endoscope, we can achieve a better surgical view of the base of tongue area. TLO was performed successfully in all 5 patients without surgical complications. The mean operating time was 44 minutes, and an average of 19 minutes was required for setting up the robotic system.

Conclusions : TLO using the robotic system will be a good option for organ preservation therapy in the treatment of carcinomas of the tonsil and the tonsillar fossa in the future.