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■ 4-EN Minimally Invasive Hybrid Surgery for the local recurrence of esophageal cancer after definitive chemoradiation.

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[Introduction] Previously we performed Minimally Invasive Hybrid Surgery (MIHS) with endoscopy and thoracoscopy for esophageal submucosal tumor. We report the case with local recurrent case of esophageal cancer after definitive chemoradiation (CRT), in which salvage resection was successfully performed.
[Case] A 64-year-old man was diagnosed esophagus cancer (Mt cT3N1M1(Oss)) at another hospital. After CRT comprising 5-fluorouracil and cisplatin with dose of 60Gy radiation, the recurrence of lymph node #106recR revealed and underwent thoracoscopic lymphadenectomy. After one-year adjuvant administration with S-1, re-recurrence within muscular layer of the upper thoracic esophagus was revealed. Although further treatment with CF therapy was carried out, he was soon compelled to discontinue due to 5-fluorouracil encephalopathy. After three and a half years later from initial treatment, he visited our hospital to desire further treatment. Salvage esophagectomy was deemed highly invasive for his general condition, so we decided to undergo MIHS.
[MIHS] The procedures were performed in a prone position through a double-lumen endotracheal tube for single-lung ventilation. First, to clarify the resection layer between the tumor and mucosal layer of the esophagus, a sodium hyaluronate solution colored with indigo carmine was injected into the submucosa via the esophagoscopic approach. Second, we thoracoscopically divided the longitudinal muscle of the esophagus and enucleated the tumor through four ports by dissecting along the artificially colored submucosa, thereby minimizing accidentally opening of the esophageal mucosa. Third, we sutured the divided longitudinal muscle layer and removed the tumor from the thoracic cavity. The patient's postoperative course was uneventful, except for grade I stricture (according to the Clavien–Dindo classification). He was discharged on postoperative day 18 and pathological findings revealed squamous cell carcinoma with no residual tumor in resection margin. He is free from cancer relapse in 18 months after MIHS.
[Conclusion] Salvage esophagectomy remains a highly invasive procedure that confers a significant rate of morbidity and mortality. MIHS could be a salvage treatment for local recurrence of esophageal carcinoma after definitive CRT.

■ 4-JP 食道癌根治的 CRT 後の局所再発に対する低侵襲性ハイブリッド手術

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【はじめに】これまで当センターでは，食道粘膜下腫瘍に対し，内視鏡・胸腔鏡による低侵襲性ハイブリッド手術 (Minimally Invasive Hybrid Surgery-MIHS) を施行してきた．MIHS を，食道癌化学放射線療法 (CRT) 後の局所再発に対する救済切除に応用した 1 例を経験したので報告する．
【症例】64 歳男性．他院で食道癌 Mt cT3N1M1 (骨) と診断され，CRT 施行．以後 CR を維持していたが，2 年後に LN106recR に再発を認め，胸腔鏡下リンパ節切除施行．さらに 1 年後に Ut に筋層内再発を認め，追加 CRT 開始したが，5-FU 脳症を発症し治療中断，当院紹介となった．治療歴・全身状態から食道切除は過侵襲と判断，ご本人も食道温存を希望され，MIHS を施行，術後狭窄症状を認めたが，術後 18 日目退院．病理所見は SCC，切離断端は陰性であった．
【MIHS の手順】内視鏡下に粘膜下層にインジゴ入りムコアップを注入し剥離層を作製．4 ポートで胸腔鏡操作施行，切離マージンを確保しつつ食道外縦・内輪筋を切開し，青色に標識された粘膜下層を切離し，腫瘍摘出．筋層を縫合閉鎖し．腫瘍は回収バッグに入れポート創より摘出．
【結語】食道癌 CRT 後局所再発の救済治療は，食道切除と食道温存治療 (ESD/PDT など) に大別されるが，MIHS は，主に筋層内病変に対する新たな食道温存の治療オプションとなり得ると考えられる．