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폐쇄동맥 천공지 피판을 이용한  
방사선 관련 직장질루 재건술

(Reconstruction of Radiation-Associated Rectovaginal Fistula Using Obturator Artery Perforator Island Flap)



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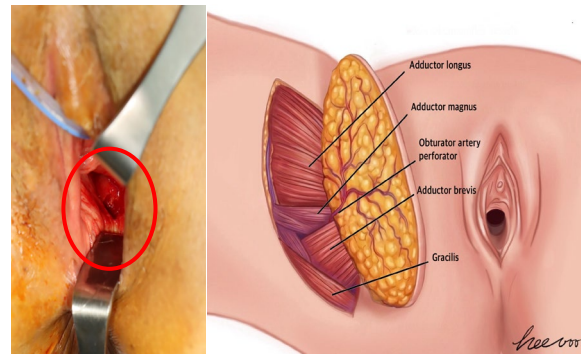
**Purpose:** Radiation-associated rectovaginal fistula following multimodal treatment for rectal cancer represents complex reconstructive challenges. Fibrosis, impaired vascularity, and repeated surgical intervention causes high recurrence rates after primary repair. We report salvage reconstruction using pedicled obturator artery perforator (OAP) island flap to achieve durability in heavily irradiated field.

**Methods:** A 59-year-old woman with rectal adenocarcinoma with liver metastases underwent chemoradiotherapy and laparoscopic ultra-low anterior resection. Due to tumor proximity, intraoperative vaginal tearing occurred. A rectovaginal fistula subsequently developed during postoperative chemotherapy, and recurred despite primary repair.

Definitive reconstruction was performed with colorectal surgery. After rectal re-repair, the radiated scar tissue was excised and pedicled OAP island flap was elevated from proximal medial thigh. The perforator from obturator artery was identified using Doppler guidance and dissected proximally to secure sufficient pedicle. A portion of obturator muscle was included to provide vascularity and bulk. Part of subcutaneous fat of the flap was debrided to match the thickness of vaginal defect. The flap was transferred through subcutaneous tunnel lateral to labia majora and covered the fistula and defect area.

**Results:** Complete flap survival was achieved without vascular compromise. The flap provided adequate bulk to obliterate dead space and cover the fistula. Early follow-up demonstrated stable vaginal reconstruction and absence of recurrent fistula without complication.

**Conclusion:** Recurrent rectovaginal fistula after chemoradiotherapy and rectal surgery requires robust vascularized interposition. The pedicled obturator artery perforator island flap offers sufficient perfusion with tissue bulk, and tension-free transfer without microsurgical burden. This technique provides practical and durable options for complex radiation-associated rectovaginal fistula.



**Fig. 1.** Rectovaginal fistula and schematic illustration of the pedicled obturator artery perforator (OAP)-based island flap. The perforator arising from the obturator artery is centered within a proximal medial thigh skin paddle, with inclusion of a portion of the obturator muscle to provide vascularized bulk for interposition.



**Fig. 2.** Intraoperative view demonstrating elevation of the pedicled OAP island flap from the proximal medial thigh, centered over the Doppler-identified perforator. Tension-free inset of the OAP island flap into the vaginal defect was done, providing well-vascularized interposition after radical debridement and rectal repair.