A 60-year-old man presented with cough. Chest computed tomography revealed a nodule in right S2 (Fig 1A). By conventional bronchoscopy, the orifice of B2 was obstructed with tumor (squamous cell carcinoma; Fig 1B). Tumor extension was assessed in greater detail using autofluorescence imaging, narrow-band imaging and ultra-high-magnification bronchoscopy (endoscopy; ECS) [1]. Autofluorescence imaging revealed magenta-colored epithelium at the orifice of the upper lobe bronchus (Fig 1C). Several dotted vessels were detected with narrow-band imaging at the same lesion (Fig 1D). Sleeve upper lobectomy was performed according to these bronchoscopic findings. ECS with methylene blue staining was performed in the resected bronchus intraoperatively. On these images of the bronchial epithelium, one could differentiate between normal epithelial cells (Fig 2A, left) and carcinoma cells (polymorphic, irregular cells; Fig 2A, right, methylene blue stain, 400× magnification achieved on a 14-inch television monitor). This clearly indicated, instead of intraoperative examination of the frozen section, that the resection site was appropriate. Intraepithelial papillary capillary loops corresponding to dotted vessels were also identified (Fig 2B, immunostain CD34, magnification ×200). There are no articles of direct comparisons between the diagnostic accuracies of ECS and frozen section for the tracheobronchial tumor. Using ECS in the bronchial tree after resection to assess for absence of R1 or R2 resection may be an attractive option, but limitations such as respiratory movements and coughing will degrade the ECS images.

Reference