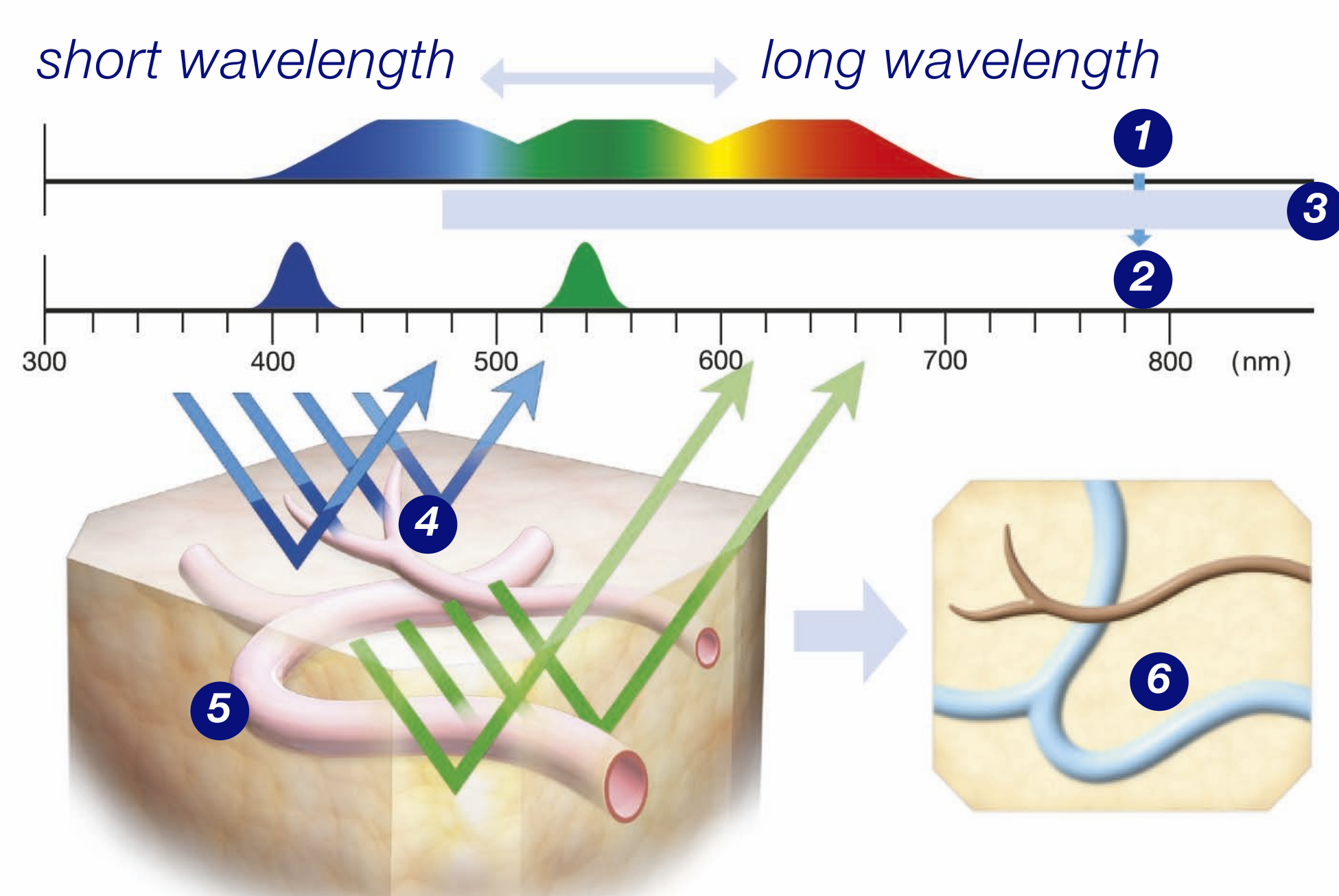# IMPORTANCE OF NBI (NARROW BAND IMAGING) FOR LARYNGOSCOPY

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short wavelength ←→ long wavelength

300   400   500   600   700   800   (nm)

Differentiation of vessel structures with NBI

1. Spectral characteristics of white light endoscopy
2. Spectral characteristics of narrow band light
3. Reduced penetration depth and selective absorption
4. Capillaries on the mucosal surface
5. Submucosal veins
6. NBI image on the monitor screen:
   Capillary vessels on the mucosal surface appear brown and the submucosal veins cyan-coloured

The new method of narrow band imaging (NBI), particularly combined with a high resolution (e.g. HD-TV), can provide a more detailed and higher contrasted visualization of visible blood vessels than previous endoscopic procedures. Before vocal sound or vocal capabilities deteriorate, i.e. before patients contract dysphonia, NBI can be routinely used to determine early changes to the vessels of the vocal folds, which can also be quantatively and qualitatively classified.
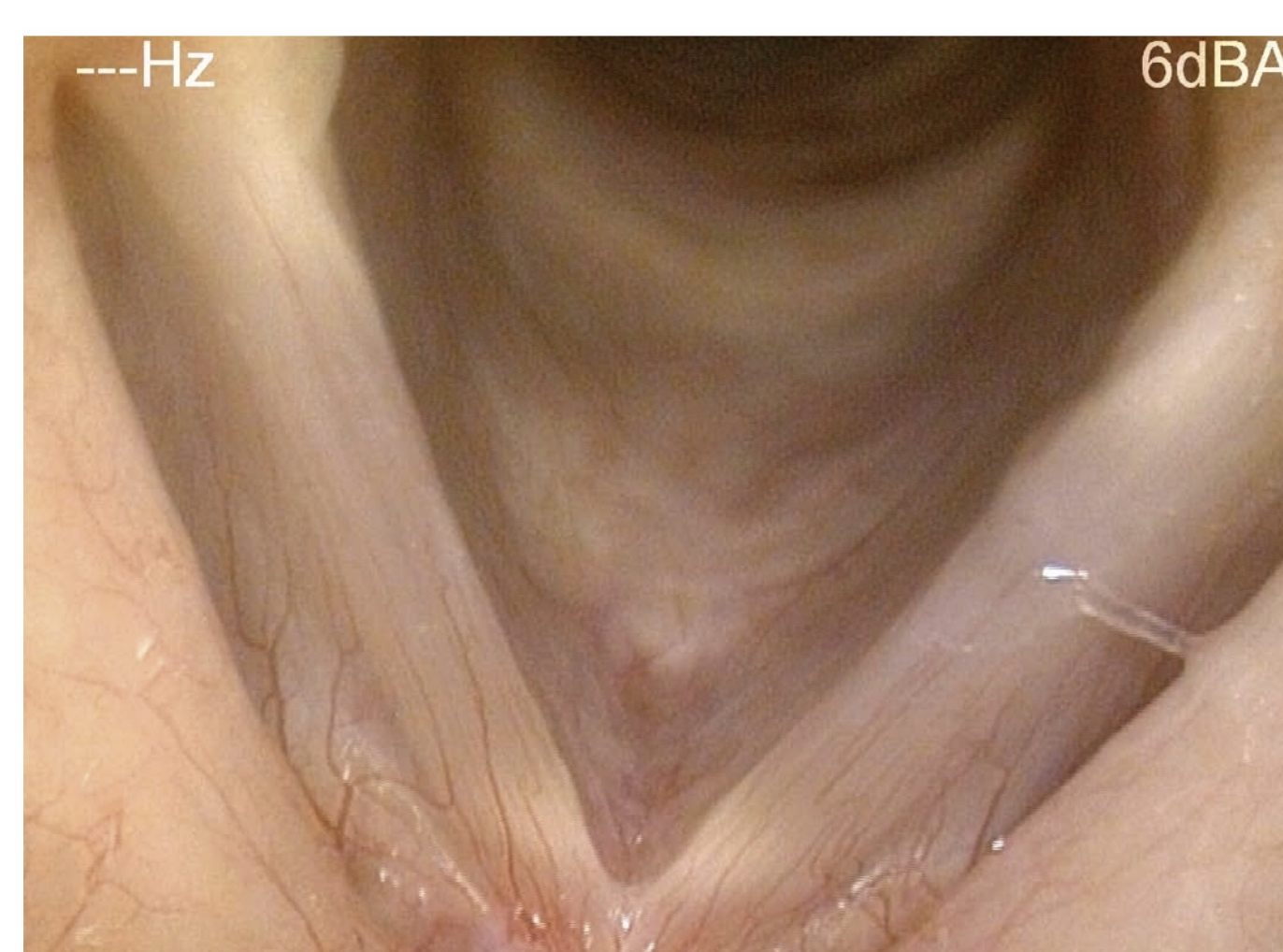
Healthy vocal folds, showing no irregularities, are displayed with a higher contrast in the NBI image
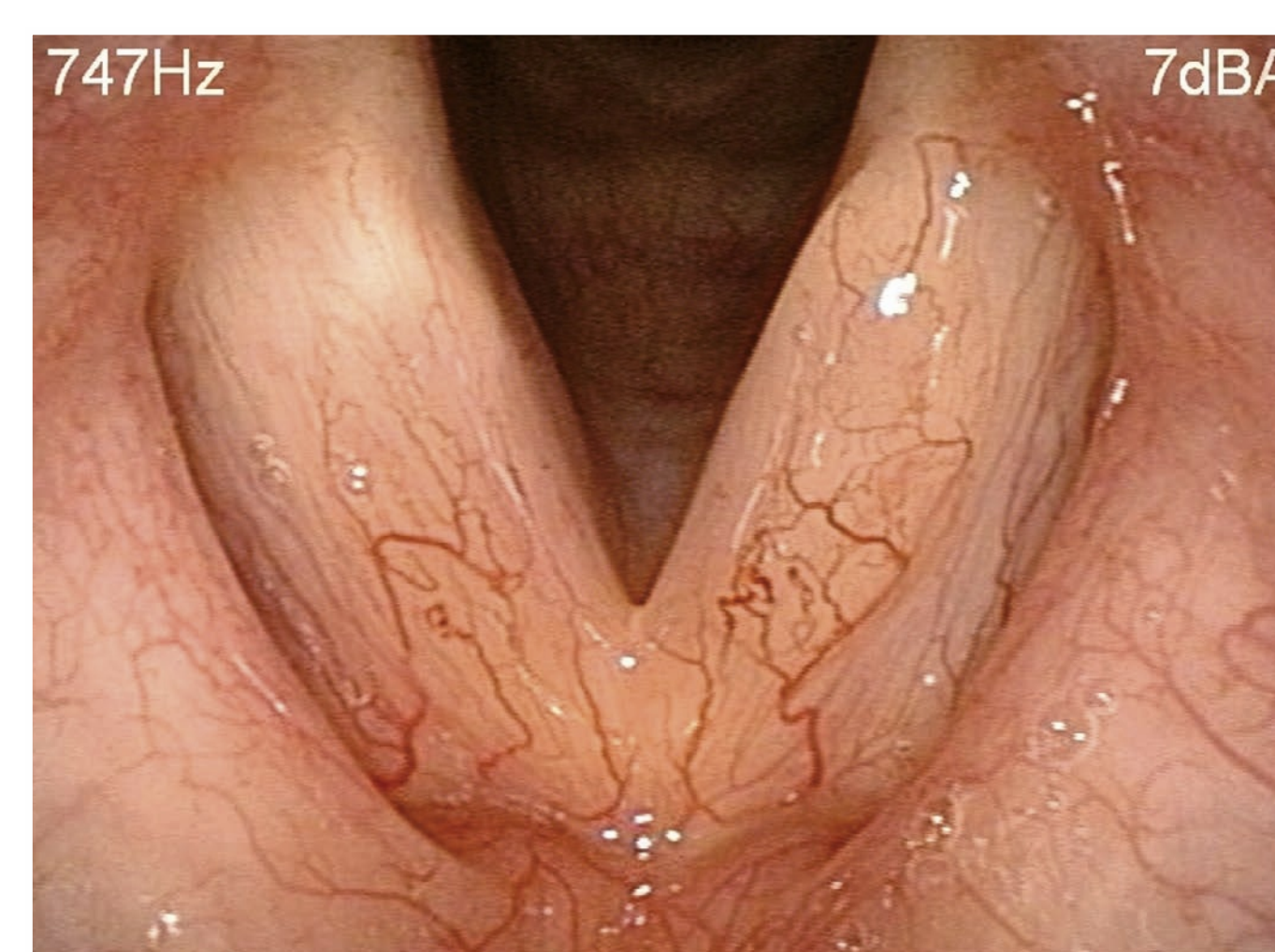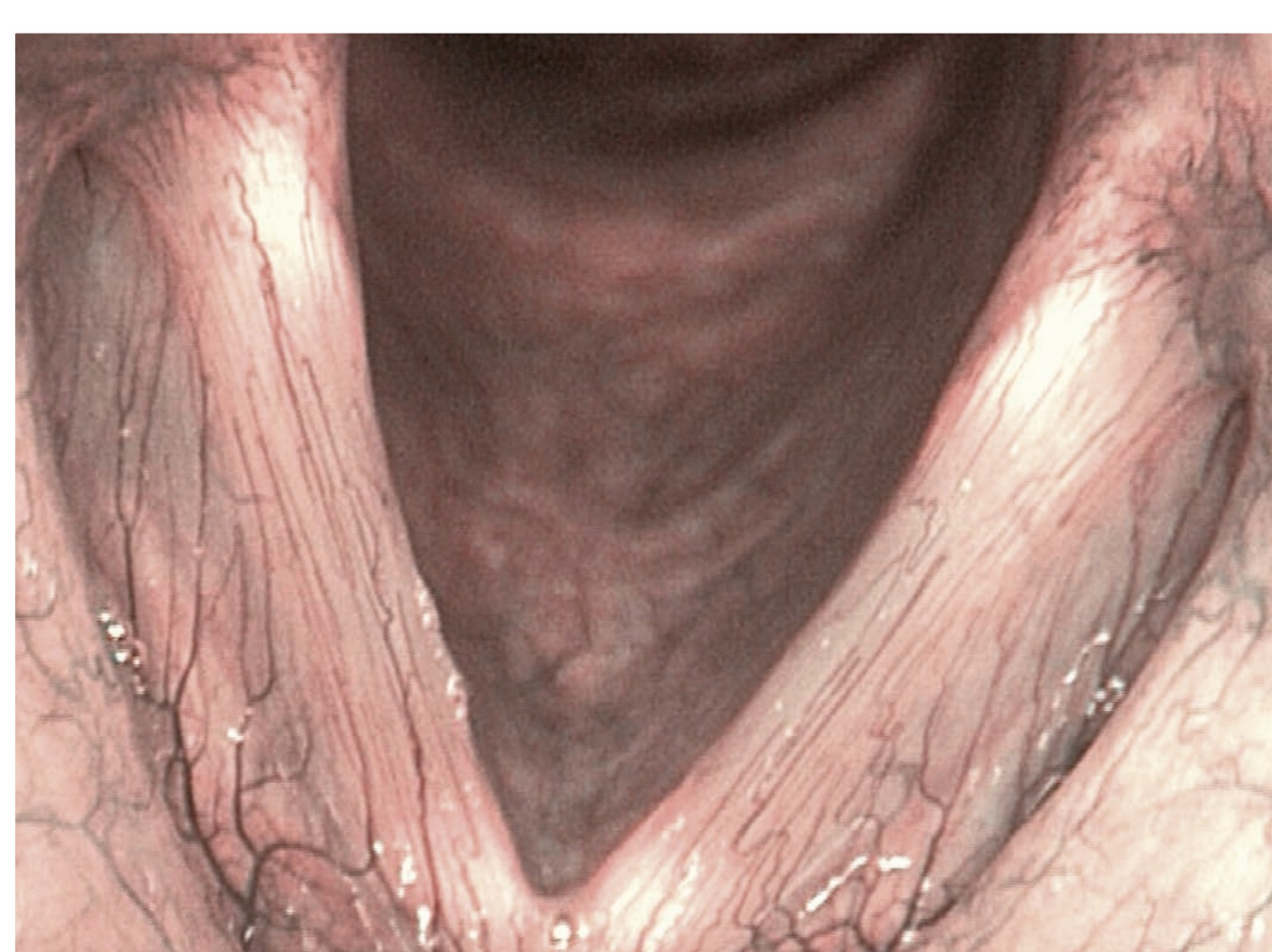

Mild vocal cord edema with epidermization in the region of the medial vocal fold edge with cervicogenic dysphonia: degree of ectasia and change in the course of the vessels different on each side
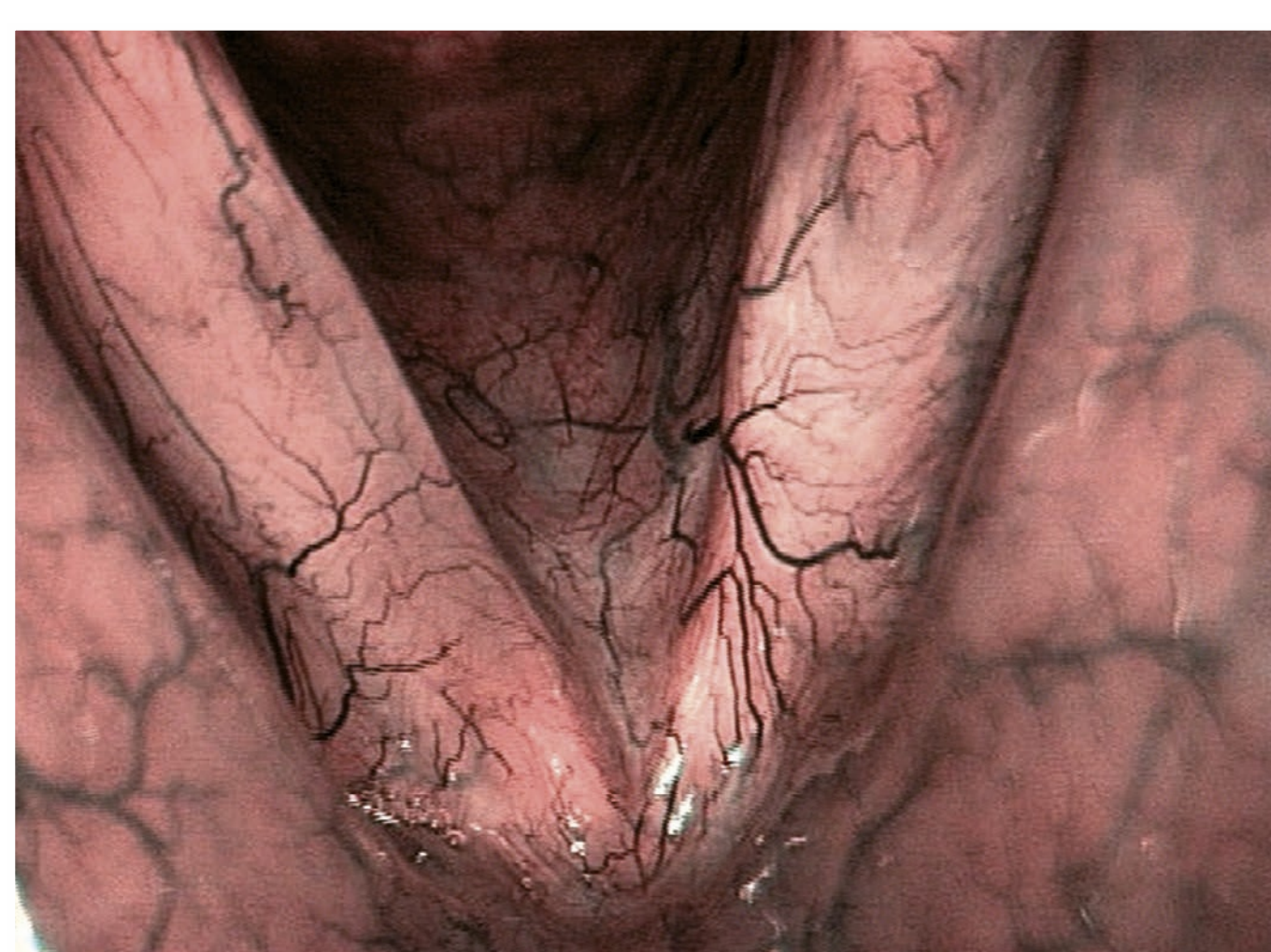

Vascular ectasia and vascular convolute with a polyp in statu nascendi on the left vocal fold

Telangiectatic vocal fold polyp with increased vascular markings on both sides
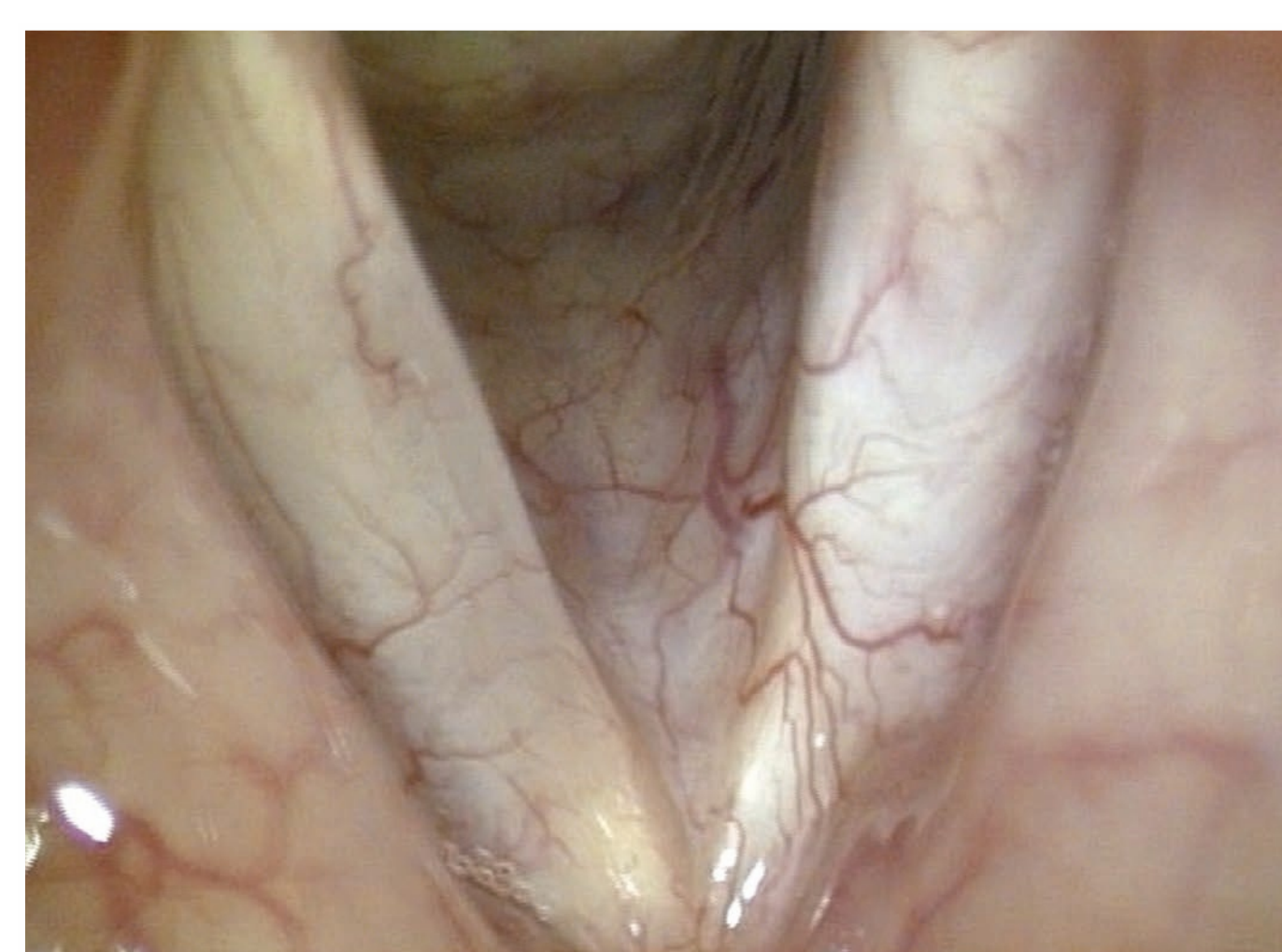
Vocal fold scars on both sides with changes in course direction and marked branching of the vessels

Recurrent papilloma with intraepithelial papillary vascular loops in the anterior commisure with mild synechia

Leukoplakia of the left vocal fold, vascular dilation and epithelial swelling on both sides

Keratinizing squamous-cell carcinoma of the right vocal fold with atypical vessels (Extent is clearly more visible in the NBI image)