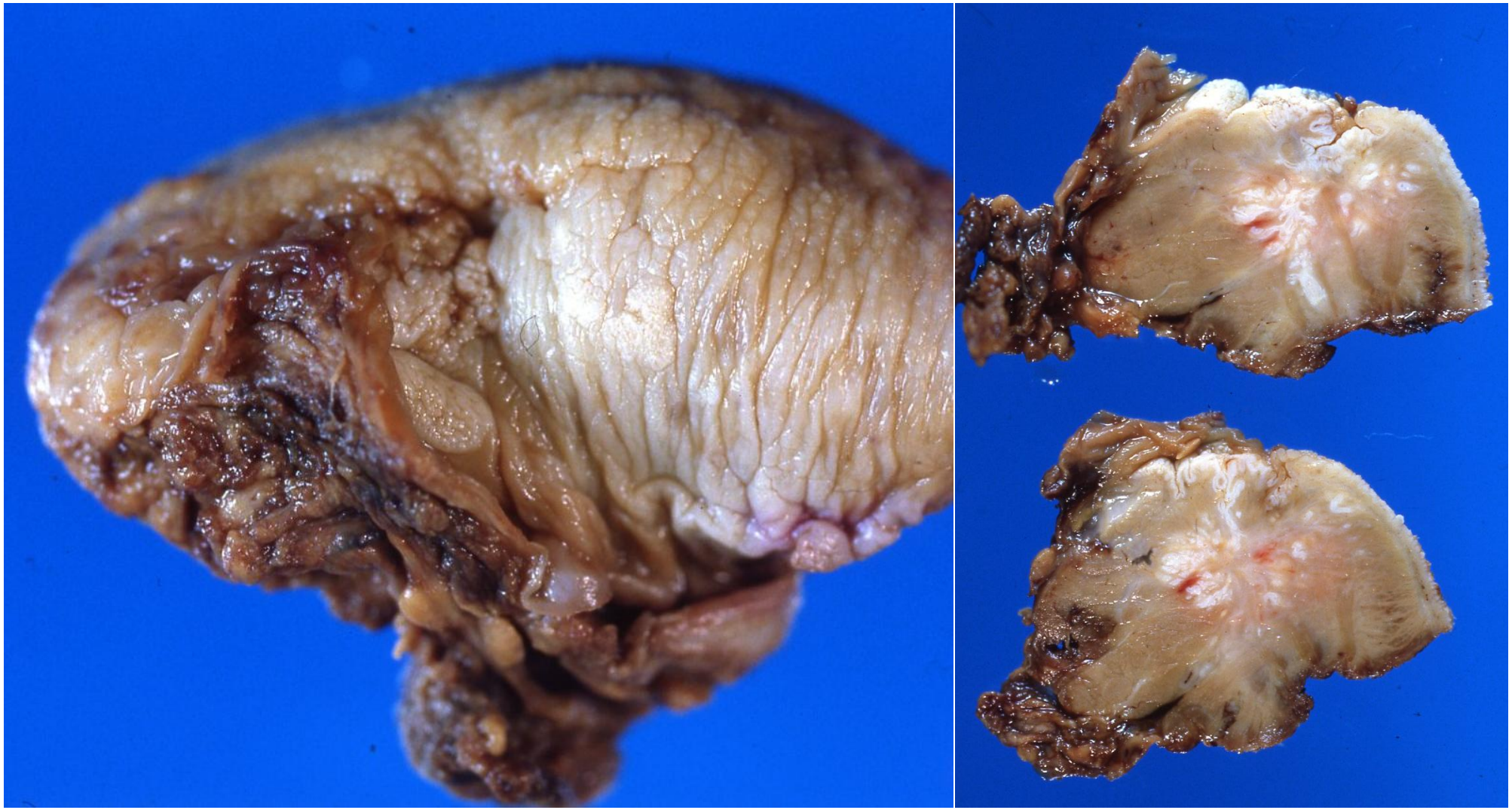
Chemoradiotherapy against squamous cell carcinoma of the oral cavity

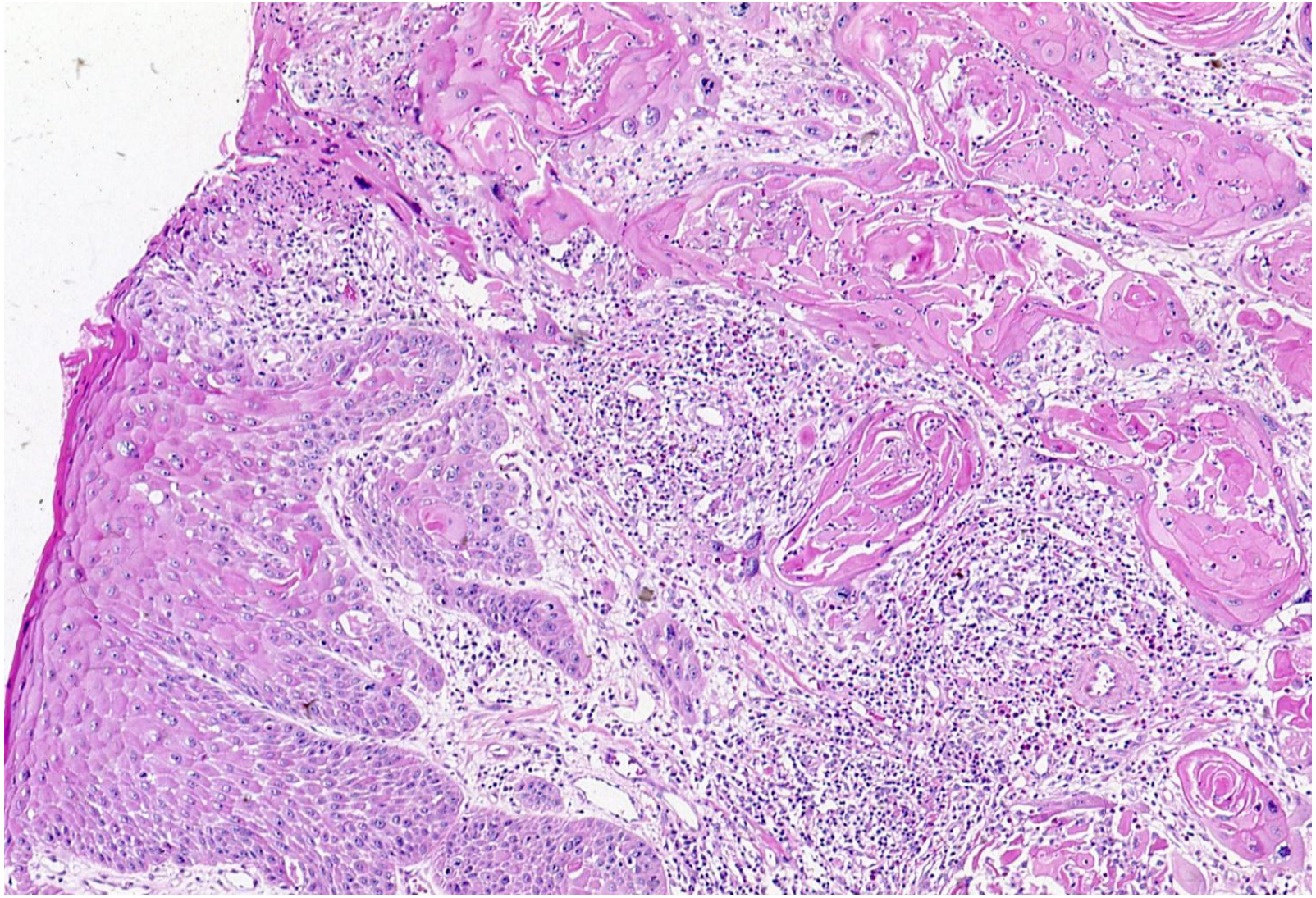
Chemoradiotherapy (CRT) is effective for treating locally aggressive squamous cell carcinoma of the oral cavity. A combination of anti-cancer drugs are given transarterially, together with local irradiation. CRT can preserve the functions of the oral cavity. Surgery with or without post-operative radiotherapy has better survival rates, but this significantly hampers the quality of life of the aged patients. Representative examples are shown here.

Ref.-1: Foster CC, et al. Definitive chemoradiation for locally-advanced oral cavity cancer: a 20-year experience. Oral Oncol 2018; 80: 16-22. doi: 10.1016/j.oraloncology.2018.03.008

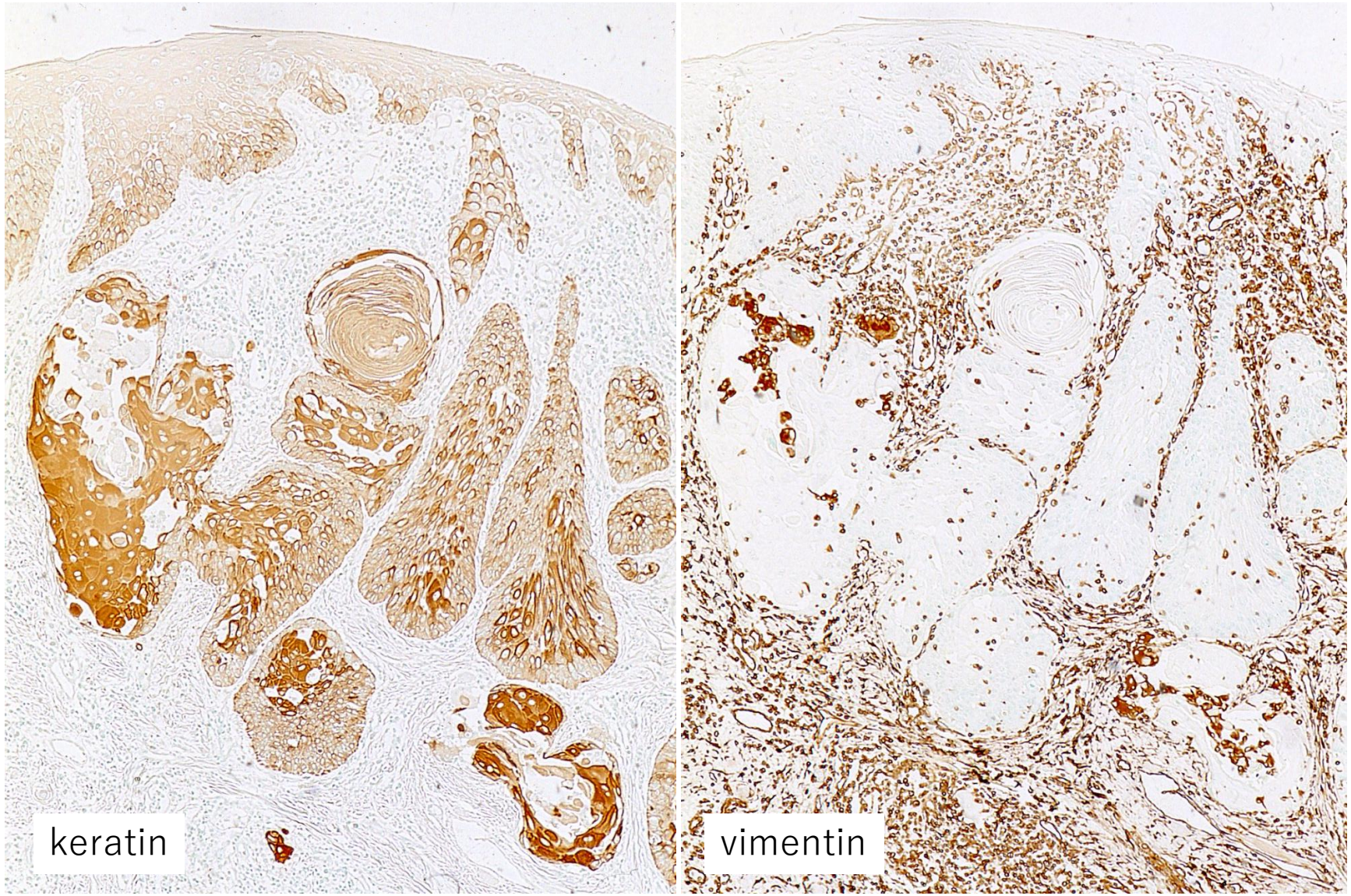
Ref.-2: Arai T, et al. Clinical study on hyponatremia caused by cisplatin-containing chemotherapy in patients with oral cancer. Tokeibu Gann (Head & Neck Cancer) 2014; 40(1): 38-42 (in Japanese with English abstract).



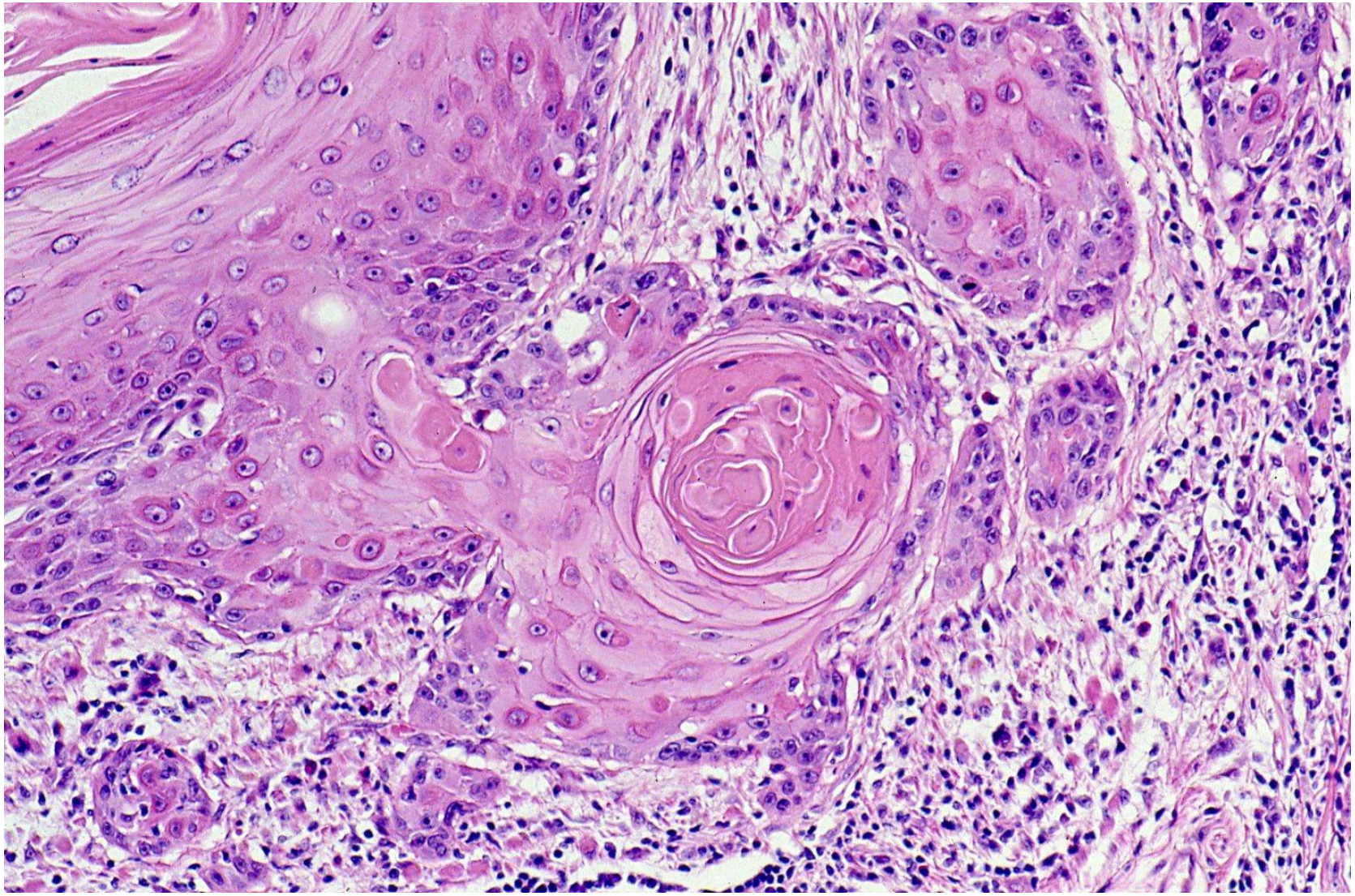
Surgical treatment (hemiglossectomy) for squamous cell carcinoma of the tongue of a male patient aged 50's, after formalin fixation (left: general view, right: cut surfaces of the invasive malignancy reaching the deep muscle layer). The surgery significantly hampers the quality of life of the patient.



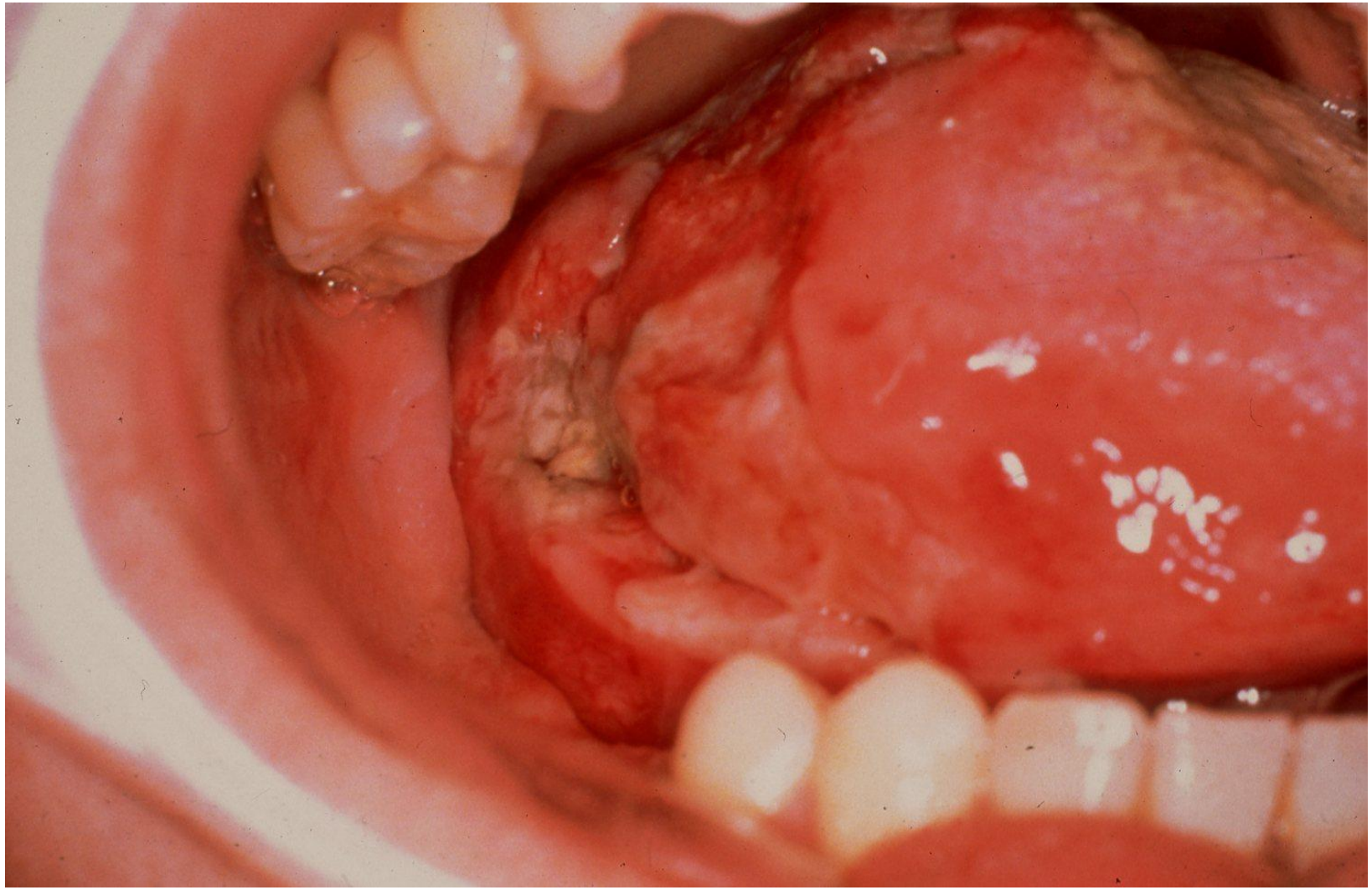
Squamous cell carcinoma of the tongue of a male patient aged 50’s. Highly invasive growth of keratinizing squamous cell carcinoma is observed. Cancer pearl formation is evident (H&E-1)



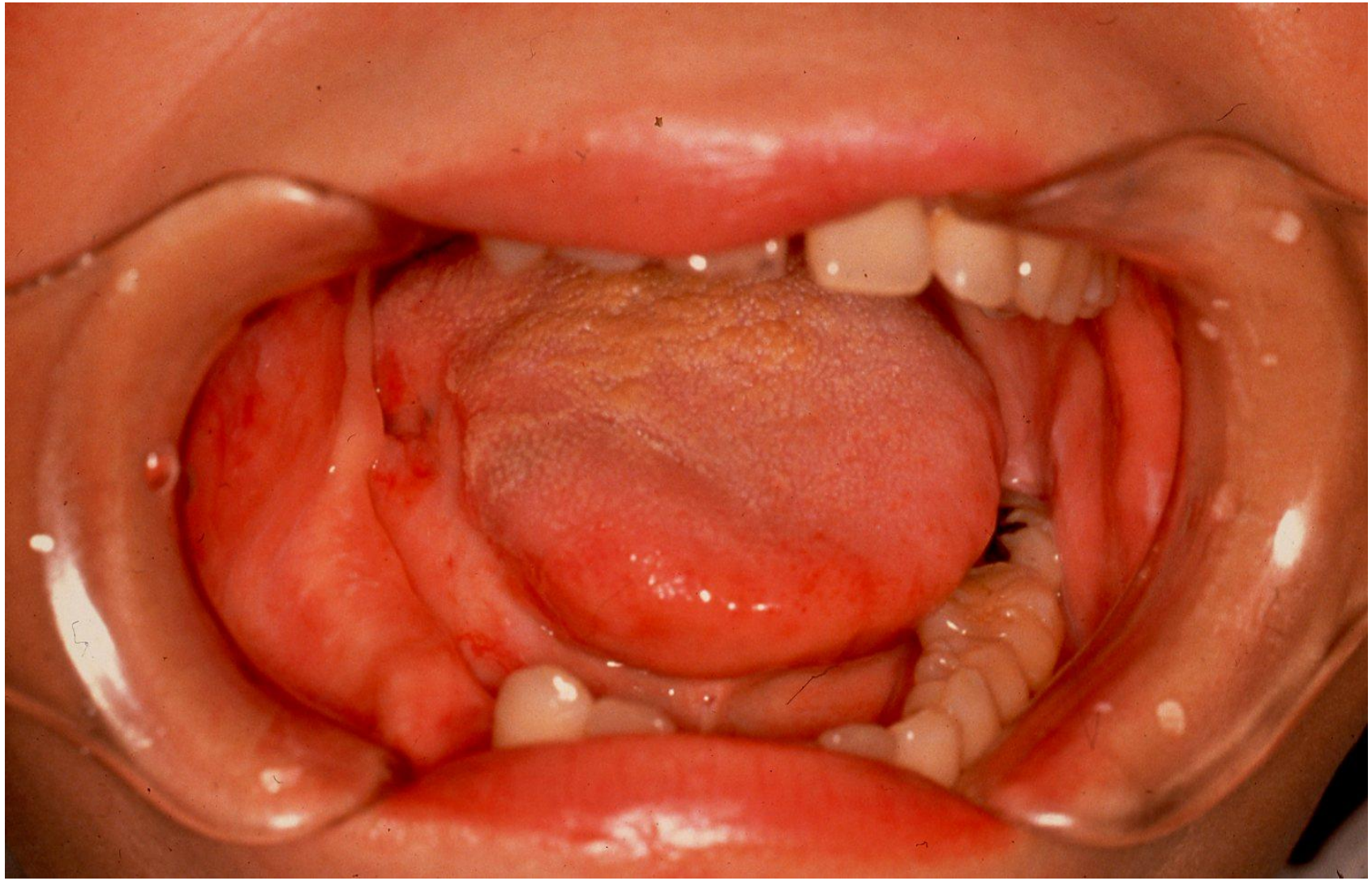
Squamous cell carcinoma of the tongue of a male patient aged 50’s. The invasive squamous cell carcinoma is visualized with keratin immunostaining using an antiserum, while stromal and inflammatory cells are immunoreactive for vimentin (immunostaining for keratin and vimentin).



Squamous cell carcinoma of the tongue of a male patient aged 50’s. Invasive squamous cell carcinoma shows distinct keratinization with cancer pearl formation (H&E-2)



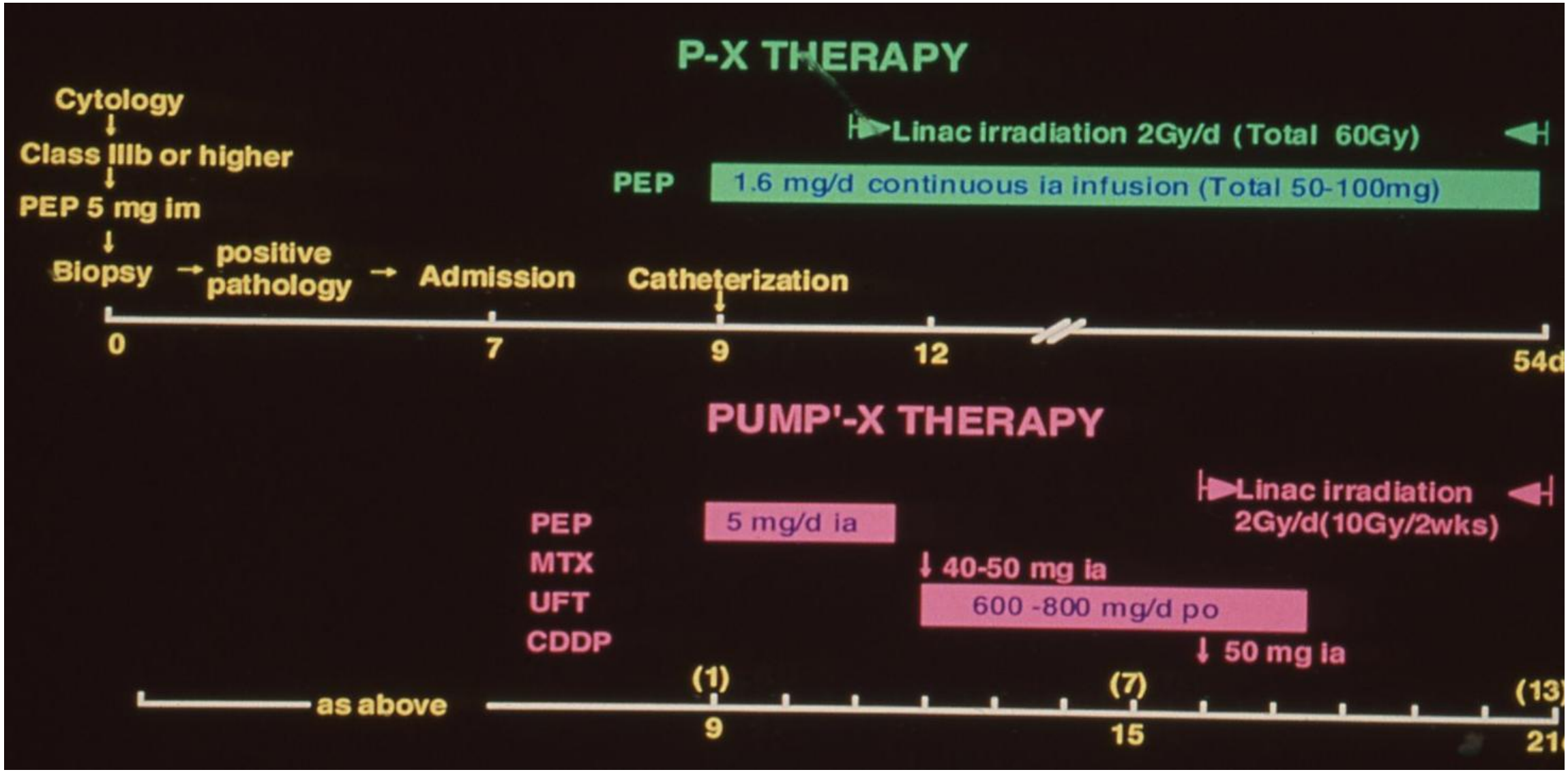
Squamous cell carcinoma of the tongue of a 46 y-o female patient. Gross appearance of the oral cavity. Deep ulceration is formed on the tongue. Partial denture has irritated the lateral surface of the tongue to provoke malignant transformation.



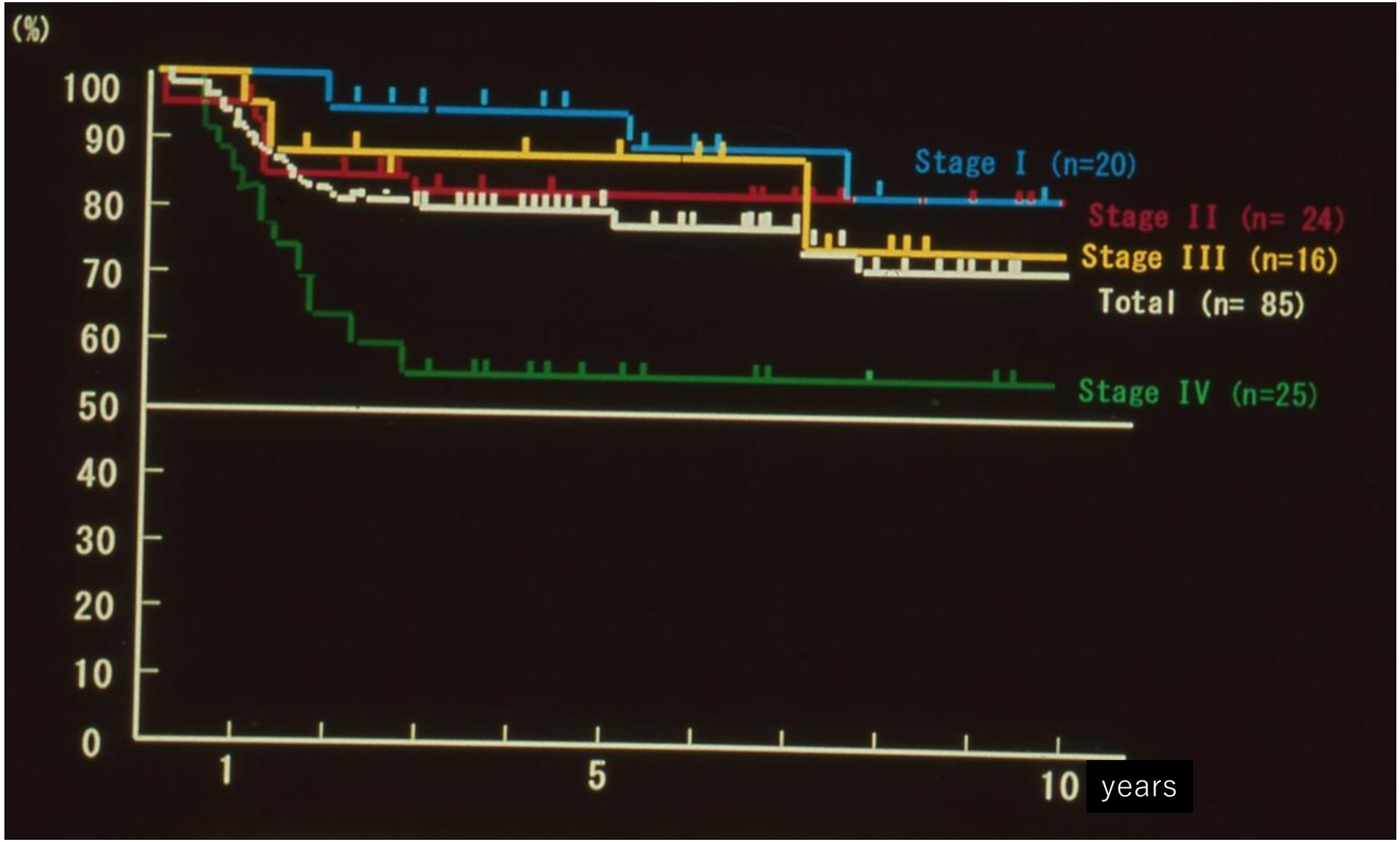
Two years after chemoradiotherapy (PUMP-X plus 60 Gy radiation) against tongue squamous cell carcinoma of a 48 y-o female patient. The ulcer has been scarred, and complete remission state is kept to preserved her quality of life.

A large-sized squamous cell carcinoma of the right buccal mucosa through the mandibular gum seen in a 77 y-o male patient. Ulceration and multifocal erosions are observed. It seems difficult to perform radical surgery.

Two years after chemoradiotherapy against squamous cell carcinoma of the oral cavity of a 79 y-o male patient. As chemoradiotherapy, intraarterial perfusion of Bleomycin plus radiotherapy 60 Gy were given. BrdU and FT207 were also used as adjuvant drugs. A complete remission state of the buccal mucosa is obtained.



A representative sequence of chemoradiotherapy (PUMP'-X therapy) against squamous cell carcinoma of the oral cavity. Intraarterial perfusion of PEP (Pepleomycin), MTX (Methotrexate) and CDDP (Cisplatin), and oral intake of UFT (5-FU derivative: uracil + Tegafur) are sequentially given, and irradiation therapy follows.



Cumulative survival rate of patients with squamous cell carcinoma of the oral cavity treated with chemoradiotherapy without surgery (n=85).
In stage I-III patients, the prognosis is excellent (>75%).