

# ***Brachytherapy For Benign Diseases***

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## **1     *Introduction***

In a recent publication by Kantor (11) two classical indications are recommended for brachytherapy for benign diseases: keloids and pterygium. In a survey concerning the role of radiation for benign diseases (13), keloids are the most common benign disorder treated by radiation therapy. Besides keloid and pterygium also Rendu-Osler-Weber disease, can constitute an indication for brachytherapy. A new indication is endovascular brachytherapy for inhibition of neo-intimal proliferation after PTCA or PTA in vascular arterial atheromatosis. (See chapter 32 on endovascular brachytherapy)

## **2     *Radiobiological Mechanisms***

The radiobiological mechanisms of radiotherapy in benign diseases were described by Trott and Kamprad (19) and summarised by the same authors in a recent ESTRO EORTC meeting (Brussels, October 1999) on: "Radiation for benign disease: current status and possible perspectives". The common feature of these benign lesions is that the process is triggered by traumatism like in keloids and endovascular neo-intimal proliferation, or other unknown stimuli like in pterygium or Rendu-Osler, leading to a cascade of signals, transmitted by cytokines which lead to a benign cell proliferation. As in treatment of malignant cell growth, radiotherapy is able to inhibit cell growth and further release of stimulating cytokines (compare 32.3).