
Abstract:

Formerly an exclusive business of surgery, gastrointestinal (GI) tumors are nowadays increasingly approached with multimodal strategies. Neoadjuvant concepts have had a particularly far-reaching impact on surgery and have contributed to improved survival. Modern pre-treatment staging and risk assessment provide the basis for decision on one of three general treatment concepts (1) Early cancers, confined to the mucosal/submucosal layers, are approached with primary surgery, without prior antineoplastic therapy. (2) Systemically metastasized tumors receive merely palliative treatment. (3) Locally advanced cancers are increasingly approached with neoadjuvant strategies. The benefit from these preoperative protocols is proven for diverse entities, but is evidently confined to a specific subgroup patients, i.e., the responders to neoadjuvant treatment. These are the ones benefiting most from subsequent surgical resection, which is required to ensure complete removal of the residual tumor tissue, as complete tumorregression occurs very rarely and cannot be proven without a specimen. The fact that responders will benefit and non-responders will not benefit or will even deteriorate during the neoadjuvant treatment makes early response prediction most demanding. An amazing new approach is the use of position emission tomography with fluoro-desoxyglucose (FDG-PET) to assess the "metabolic response,"
which is possible as early as 14 days after initiation of the neoadjuvant protocol. This strategy offers
the chance for modulating the surgical approach in accord i.e., with such metabolic response
termination of the protocol and proceeding to resection in the case of nonresponse. The future of GI
cancer surgery is multimodal therapy in a response-based fashion and requires reponse-based trials
for further evaluation.