Abstract

Gastrointestinal stromal tumours are tumours of mesenchymal origin, whose treatment and prognosis have improved over the last 22 years thanks to tyrosine kinase inhibitors. This disease is often caused by mutations in the members of the tyrosine kinase subfamily III – KIT and PDGFRα. Mutations in the genes of these receptors can lead to malignant transformation. Before the year 2002, gastrointestinal stromal tumours had a poor prognosis, with the median of overall survival of 18-24 months. The only treatment available was a surgical resection. An improvement came with the approval of imatinib, the first tyrosine kinase inhibitor. Although this was a step forward in the treatment, there are populations of patients, who have primary resistance to imatinib, or which are intolerant to this drug. In addition, most patients will eventually develop secondary resistance, which is caused by secondary mutations. Since the approval of imatinib, new tyrosine kinases are being developed. They can be used for the patients with primary resistance to imatinib or as a next-line therapy after the development of secondary resistance, these include sunitinib, regorafenib, avapritinib and ripretinib.

Keywords: gastrointestinal stromal tumour, tyrosine kinases, tyrosine kinase inhibitors