Imatinib

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Development of imatinib resistance in EGISTs: case report

A 52-year-old man acquired secondary resistance to imatinib during treatment for extragastrointestinal stromal tumours (EGISTs).

The man was diagnosed with multiple abdominal EGISTs and started receiving imatinib 400 mg/day [*route not stated*]. Immunohistochemical staining was positive for c-kit, but no *KIT* gene mutations were found. After 16 months of treatment, CT scans revealed that the tumours had considerably decreased in size. During the course of treatment, he developed eyelid oedema. After 2 years of treatment, liver metastases and mesenteric nodules were found, indicating peritoneal dissemination.

The imatinib dose was increased to 800 mg/day, but this had no effect on the man's metastases. He underwent surgical removal of some of the mesenteric nodules and partial liver resection. The diagnosis of multiple EGISTs was confirmed. Immunohistochemical staining revealed a mutation in exon 11 of the *KIT* gene in all surgical specimens, suggesting secondary resistance to imatinib. Further liver metastases were found 3 months later. He received sunitinib following surgery and was alive after 6 months of treatment with sunitinib.

Author comment: "*Although clinical observations have indicated that tumors with KIT gene mutations in exon 11 may be sensitive to imatinib mesylate, the present case, an exon 11 mutant carrier, was not a responder, even at an elevated treatment dosage. This indicates that this mutation might have existed as the first mutation. The resistant mechanism suggested by our report is a complementary hypothesis of acquired mutations of secondary imatinib mesylate-resistant EGISTs.*"

Ando K, et al. Secondary resistance of extra-gastrointestinal stromal tumors to imatinib mesylate: report of a case. Surgery Today - The Japanese Journal of Surgery 41: 1290-3, No. 9, Sep 2011 - Japan 803072356