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Antisense oligonucleotide treatment for human astrocytoma

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Active antisense oligonucleotides directed against the insulin-like growth factor type I receptor (IGF-IR/AS ODN) have shown potential as an antitumour agent in animal studies. In the April issue of Journal of Clinical Oncology David Andrews and colleagues from Thomas Jefferson University Hospital, Philadelphia, describe their novel implantation of IGF-IR/AS ODN-treated cells in patients with astrocytoma.

Andrews *et al*. studied 12 patients treated by surgery for malignant astrocytoma. Glioma cells collected at surgery were treated *ex vivo* with an IGF-IR/AS ODN and reimplanted in the rectus sheath within 24 hours of craniotomy. Examination of the IGF-IR/AS ODN-treated cells after a 24-hour *in situ* incubation showed that only 2% were intact, and none of the intact cells was viable in culture thereafter. IGF-IR was down regulated to 10% after *ex vivo* antisense treatment (*J Clin Oncol* 2001, **19:**2189-2200).

In addition, clinical and radiographic improvements were observed in eight of 12 patients. This suggests that *ex vivo* IGF-IR/AS ODN treatment of autologous glioma cells can induce apoptosis and an *in vivo* host response without side effects.

References

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2. Thomas Jefferson University Hospital, [http://www.jeffersonhospital.org/show.asp?durki=3858]