The effectiveness and cost-effectiveness of somatostatin analogues in the treatment of acromegaly

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Record Status
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Citation

Authors' objectives
This systematic review aims to examine the clinical effectiveness and costs of somatostatin analogue treatment for acromegaly.

Four questions were addressed in this review. These were:

(a) What is the effectiveness of somatostatin analogues versus conventional therapy as an adjuvant treatment to surgery and or radiotherapy? (b) What is the effectiveness of somatostatin analogues compared to conventional therapy as a primary treatment for acromegaly? (c) What is the effectiveness of somatostatin analogues as a neo-adjuvant treatment to surgical removal of a pituitary tumour in acromegaly? (d) What is the effectiveness of the different somatostatin analogues in the treatment of acromegaly?

Authors' conclusions
Three RCTS have been undertaken on the effectiveness of somatostatin analogues as adjuvant treatment to pituitary surgery and or radiotherapy in acromegaly. Two of the RCTs compared octreotide sc to placebo and one RCT compared octreotide sc to the dopamine agonist bromocriptine. All three trials were of relatively short duration, two enrolled relatively small numbers of patients and the quality of all three was mediocre. From these trials octreotide sc appears more effective than placebo and equally as effective as bromocriptine. Robust research with longer follow up is required to clarify whether octreotide sc is more effective than bromocriptine. In addition further research is required to address the fact that no controlled trials have compared the effectiveness of octreotide LAR or lanreotide LA with dopamine agonists and cabergoline in particular. Furthermore no controlled trial has investigated the effectiveness of combined somatostatin analogue and dopamine agonist treatment compared to single drug treatment.

No studies met the inclusion criteria with regard to the effectiveness of somatostatin analogues as a primary treatment for acromegaly. Trials may be deemed unethical with regard to most patients, as the aim of the main comparators (surgery, radiotherapy) is a cure rather than the control of symptoms.

Two RCTs have been undertaken on the effectiveness of somatostatin analogues as neo-adjuvant treatment to surgical resection of a pituitary tumour causing acromegaly. One trial employed octreotide sc and the other lanreotide LA. In general, the quality and reporting of both trials was poor and therefore it is not possible to determine the effectiveness of somatostatin analogues as neo-adjuvant treatment.

Only one RCT has compared the effectiveness of different somatostatin analogues. The trial compared octreotide LAR treatment with lanreotide LA over a three month period. Although the trial determined that octreotide LAR was more effective than lanreotide LA, weaknesses in the study design and reporting mean that the findings of this RCT cannot be relied upon to give dependable information on the effectiveness of one analogue over the other. The effectiveness of octreotide sc compared to depot somatostatin analogue preparations (octreotide LAR, lanreotide LA) has not been assessed by RCT. No reliable evidence exists from RCTs on which to make a recommendation of one somatostatin analogue over another.
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