

Proton therapy in children only hospital-based

No. 2018/02

Executive summary

Health Council of the Netherlands



Introduction

Proton therapy is a relatively new form of radiotherapy which, on comparison with usual radiotherapy with photons, offers a number of important advantages in the treatment of certain types of cancer. A proton beam can be concentrated better on the affected tissue, which is not only more effective in combating the cancer itself, but is also less damaging to surrounding tissues. This should result in fewer adverse effects and late sequelae. It is expected that proton therapy will be especially beneficial to children and young adults.

Taking into account a recommendation made by the Health Council of the Netherlands in 2009, it has been decided to introduce proton beam therapy into the Netherlands in a measured fashion, with the granting of licences within the framework of the Special Medical Procedures Act. Four licences for the building and running of proton beam centres have been granted. It is expected that three centres will begin treatment in 2018. These centres are also intending to treat children. However, one of these centres

does not meet the licensing requirement as formulated by the current regulations, i.e. that proton therapy in children may only be provided in, or in the direct vicinity, of a hospital (hospital-based criterion). Another centre is considering only treating children with ‘non-complex’ tumours.

Request for advice

The Minister responsible has asked the Health Council of the Netherlands if the hospital-based requirement for proton therapy in children is still necessary, in view of the current state of scientific knowledge and recent publications. In addition, the Minister wished to know the extent to which the requirement was based on the necessity of anaesthesia, and what the preconditions for proton therapy in children in a stand-alone location were. Finally, the Minister asked the extent to which it would be inconvenient if there were only one centre in the Netherlands where children could go for protontherapy.

Approach and findings

The Committee has investigated the available literature on the safety of proton therapy in an extra-mural location (a stand-alone facility). This primarily concerns the risks associated with the administration of deep sedation/anaesthesia, which is necessary in some children to achieve the optimal effect of radiotherapy. In addition to a literature study, interviews were held with experts and representatives of almost all parties who will be involved in proton therapy in children. One of the aims of these interviews was to look at proton therapy in children with cancer in a broader perspective.

The literature study showed that before undergoing a procedure, deep sedation/anaesthesia can be safely administered at a stand-alone location if a number of pre-conditions are met. The majority of interviewees thought differently on this matter. The Committee is of the opinion that the need for sedation is only one of the factors relevant to the hospital-based criterion. The main premise must be what is necessary in order to offer optimal quality of care. Above all,



the requirements of multidisciplinary and concentrated oncological care for children must be met. There is broad consensus that children with cancer should be treated at a multidisciplinary centre, where not only various medical specialisations are represented, but where enough psychosocial expertise in a child- and parent-friendly environment is also available. As one component of such low-volume, highly-complex care, proton therapy should also take place in this setting. From the point of view of accessibility of care, it would be advantageous if proton therapy were to be

available at a number of locations, but optimal care requires concentration in a multidisciplinary centre that possesses the necessary facilities.

Advice

The Committee recommends that proton therapy should only be given to children at a hospital-based facility that possesses the necessary amenities for the optimal treatment of these children. This assessment is based on the criteria of quality of care, of which the safety of the administration of deep sedation to some children is only one of the considerations.



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