Is an insulin pump not superior to injections for children with newly discovered diab

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There is currently a trend to start the treatment of children with type 1 diabetes mellitus with a subcutaneous insulin pump, rather than with the conventional insulin injections. No clear evidence exists whether this is an improvement. There are indeed some reasons to assume that this might constitute an improvement. An insulin pump allows more accurate administration of smaller quantities of insulin, and it is supposed to more accurately imitate the natural release of insulin. Recent research, however, shows that an insulin pump does not differ from conventional injections in terms of serum HbA$_1c$ levels. The number of hypoglycaemia events did not decrease and the quality of life was not improved. The costs are almost twice as high, and the use of the device requires knowledge, understanding and skills. All in all, there appear to be (as yet) insufficient arguments for recommending the insulin pump as the primary treatment option for children with diabetes.

Ge-Bu Indication

- The use of a subcutaneous insulin pump for children with newly diagnosed type 1 diabetes mellitus does not result in better HbA$_1c$ values after one year than the use of conventional injection therapy (multiple injections per day).
- At present, the use of an insulin pump is almost twice as expensive as the conventional injection therapy; it is particularly the single-use materials which cause the extra costs.
- The number of episodes of hypoglycaemia causing reduced consciousness or ketoacidosis in diabetic children treated with an insulin pump during the first year after the diagnosis turns out not to be different from that for children treated with conventional injection therapy.
- The use of an insulin pump requires an understanding of the disease, motivation and acquiring the necessary skills by parents and children.
- It is (so far) unknown whether the subcutaneous insulin pump is a useful addition in the case of complications or improves the quality of life in the longer term (based on hard outcome measures).

Literature references

2. Federatie Medisch Specialisten. Richtlijn Competenties patiënt en ouders bij een kind met diabetes mellitus type 1. 
   Via: https://richtlijnendatabase.nl/richtlijn/diabetes_hij_kinderen_insulinepompgebruik/competenties_patient_en_ouders_hij_dm1_kind.html

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