

Factors Affecting the Selection of Injection Location during Self-Therapy for Growth Hormone Therapy among Patients 10-15 Years old



מרכז שניידר לרפואת ילדים בישראל
 مركز سنايدر لطف الاطفال في اسرائيل
 Schneider Children's Medical Center of Israel
 Member of Clalit Health Services

Rotem Diamant¹, Lilach Dorot¹, Galit Asher¹, Moshe Phillip^{1,2}

¹Institute for Endocrinology and Diabetes, National Center of Childhood Diabetes, Schneider Children's Medical Center of Israel, Petah Tiqwa, Israel
²Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv; Israel

Introduction

The goal of growth hormone therapy is to cause long term linear growth. Many studies have researched the connections between various growth hormone preparations, their ease of use and adherence to treatment. No research was found on preference of specific injection locations and reasons for such. Every year over 200 children begin growth hormone therapy at the institute. Training and monitoring them is a major part of the staff's daily work. The institute aims to optimize and personalize growth hormone self-therapy training, to improve self-therapy adherence.

Objective

Investigate preferred injection location for children aged 10-15
 Investigate variables that influence the selection of preferred injection location

Results

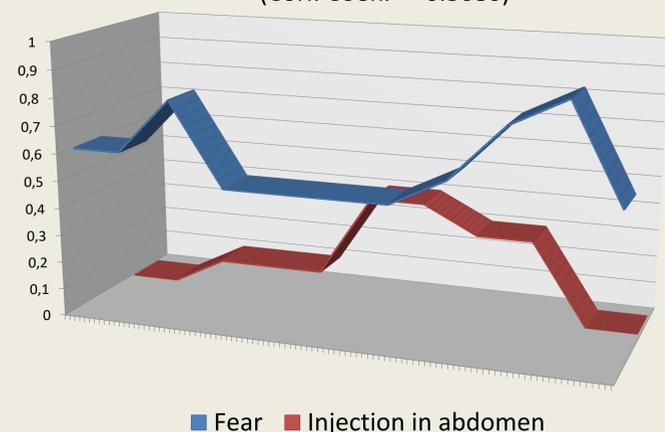
- ❖ The study population contained 100 children, 45 boys and 55 girls between the ages of 10-15 (mean age 12.6), who were treated with growth hormone between 2 month and 10 years (mean period 3 years).
- ❖ Preference of injection location (in descending order) was: arms (62%), hips (53%), buttocks(29%) and abdomen (11%), with no prominent preference for side. The most common location (arms) was chosen usually after trying to inject in other locations
- ❖ Boys reported more subjective pain than girls (NS).
- ❖ Children reporting a fear of injection in the abdomen also reported severe pain (mean of 6.9 vs. 2.66 for those that reported no fear of injection in abdomen: $p < 0.005$). Those children were treated longer with growth hormone (mean of 3.7 years vs 2.1 years for those who reported no fear of injection in the abdomen, $p < 0.011$).
- ❖ Gender, age, and familiarity with recommended injection areas were not found to impact choice of preferred injection location.
- ❖ 95% Of the children reported a warm and respectful attitude from the nursing staff, but only 85% reported understanding their explanations.
- ❖ 76% reported the nursing staff acknowledged their pain and helped deal with it.

Methods

100 children between the ages of 10-15 who had been in growth hormone treatment for over 6 weeks took part in a questionnaire study. The questionnaire examined several factors and their effect on the choice of injection location: knowledge, patient environment (training staff, patient acquaintances), pain, and personal factors (age, weight, BMI, previous experience, superstition).

population	
male	45%
female	55%
Average age	12.6%
Average treatment time (years)	3.17%
Self-injecting	42.2%
knowledge	
Familiarity with 4 locations or less	11.8%
Familiarity with 4 or more locations	88.2%
Familiarity with the abdomen location	66.7%
Injection sites	
Injection in less than 4 locations	45.1%
Injection at 4 or more locations	54.9%
Fear of injection into the abdomen	60.8%

Correlation between "Fear" and "Injection in abdomen"
 (Corr. Coeff. = -0.3680)



Conclusions

Time does not constitute a mitigating factor, and sometimes the fear increases as time passes and the age increases. The major factor affecting choice of injection location is fear of pain. Children treated with growth hormone are not afraid of visible signs at the site of the injection.

