



The efficacy of inhaled hypertonic saline in children with cystic fibrosis who receive daily DNase.

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Abstract

Objective: Hypertonic saline(HS) and recombinant human deoxyribonuclease(rhDNase) are used to force airway clearance in cystic fibrosis(CF) patients. We aimed to evaluate the efficacy of inhaled HS therapy in CF patients receiving daily rhDNase.

Method: A retrospective case-control study was conducted by using the data of our national CF registry. The efficacy of HS was analyzed among patients who used only HS(n:35) and who did not receive any hydrator therapy(n:227)(control group) between 2017-2019. The efficacy of HS was mainly evaluated by comparing pulmonary functions and body mass index(BMI).

Result: Patients(n:271) who had annual records between 2017-2019 and used neither inhaled HS nor inhaled mannitol in 2017 were included in the study. The ppFEV1, FEV1z-scores of the group in whom HS treatment was initiated were significantly lower than the control group(p:0.002,p:0.037); presence of chronic bacterial colonization(p:0.010), inhaled antibiotic usage(p<0.001), O2 and NIMV requirements(p:0.030,p<0.001) were significantly higher also. At the end of the study in the records of 2019, absolute changes in FEV1, FEV1/FVCz-scores and BMIz-score did not differ significantly between groups. Absolute changes in FVC were better in the control group(p:0.006). The paired analyses showed no significant improvement in spirometry indices of the HS treatment group. There was a significant improvement in pulmonary functions and BMI in the control group at the end of the study.

Conclusions: HS was started mostly in patients who had severe clinical status;but unfortunately HS didnot significantly improve the FEV1,FVC,FEV1/FVC and BMI of CF,whose respiratory functions are unaffected or mildly affected.

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Footnotes

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