

Isosorbide Dinitrate Is a Safe Provocative Agent In Head up Tilt Test in Children and Adolescents

Sabri M.R., Maghzian M.

Isfahan University of Medical Sciences- Isfahan - Iran

Introduction:

Neurally mediated syncope (NMS) in the children and adolescents is the most likely cause of syncope. Head up tilt test (HUT) is used in diagnosing children and adolescents with NMS. Conventional HUT test protocol is time-consuming and the sensitivity of this method is relatively low. Pharmacologic provocative agents such as nitroglycerin and isosorbide dinitrate (ISDN) are commonly used to increase diagnostic yield of HUT test. It has been reported that sublingual ISDN-HUT test is suitable for routine clinical practice in children and adolescents with unexpected syncope. But in that protocol, the total tilt duration is too long for children to tolerate. This study evaluated the advantage and safety of a short ISDN-HUT test protocol for diagnosing NMS in children and adolescents.

Material and Methods:

We studied 172 patients (84 males and 88 females) referred with unexplained syncope. In case group 43 patients had mean (\pm SD) age of 11.8 ± 3.7 years and in control group 129 patients had mean (\pm SD) age of 11.7 ± 3.7 years. The patients in case group were tilted to an angle of 65 degrees for 20 minutes (unmedicated phase). If test became negative the patient would receive 0.1 mg/kg ISDN sublingually in supine position. After 5 minutes, the table was tilted to an angle of 65 degrees for a maximum of 20 minutes or until the test became positive (medicated phase). The patients in control group were tilted to an angle of 65 degrees for 40 minutes (conventional HUT test protocol).

Results:

Overall 36 patients (83.5%) in case group 17 patients (39.5%) in unmedicated phase and 19 patients (44%) in medicated phase and 80 patients (62%) in control group had a positive response ($P=0.009$). All patients in the case group tolerated ISDN very well.

Discussion:

Our finding showed that short ISDN-HUT test protocol for diagnosing NMS is safe and has a higher rate of positive response than conventional HUT test protocol.