Sincope Unit al fine di 1) fornire dati epidemiologici e clinici sulla sincope in età pediatrica, 2) valutare il funzionamento e l'efficacia del modello della Sincope Unit.

Metodi: Dal 1 ottobre 2011 al 31 marzo 2014 sono stati studiati un totale di 1011 pazienti con sincope o presincope (50% maschi, età media 13 anni, età media alla prima sincope 10 anni). Tutti i pazienti sono stati valutati seguendo un protocollo diagnostico-terapeutico che prevede una valutazione clinica e diagnostica a vari livelli di complessità. Tale protocollo era finalizzato alla stratificazione del rischio e all'individuazione di tre principali sottogruppi di pazienti: 1) sospetta sincope cardiaca 2) sospetta sincope neuromediata e 3) sospetta pseudo-sincope ed aveva lo scopo di indirizzarli ad un percorso terapeutico specifico. Il primo gruppo di pazienti viene valutato in tempi rapidissimi con esami strumentali anche complessi e invasivi (studio elettrofisiologico endocavitario o transesofageo, impianto di loop recorder interno), i pazienti con sospetta sincope neuromediata vengono invece seguiti in ambulatorio o Day Hospital dove è possibile effettuare esami diagnostici di secondo livello (tilt test, Holter ECG, Holter PA, test da sforzo, ecocardiogramma, loop recorder esterno, potenziali tardivi). I casi di sospetta pseudo-sincope vengono infine inviati all'attenzione dello specialista di competenza (neurologo, endocrinologo, psicologo ecc).

Risultati: La sincope neuromediata è stata la più frequente (71%), la sincope aritmica è stata diagnosticata nel 3,7% (e nel 50% dei casi si è posta indicazione ad impianto di pacemaker e/o defibrillatore), la pseudosincope è stata riscontrata nel 3,2% e nel 21,5% l'eziologia è rimasta indeterminata. La sincope era ricorrente nel 58% e nel 25% dei casi l'anamnesi familiare era positiva per sincope e morte improvvisa. Nel corso del follow-up il 54% dei pazienti ha riferito un completo controllo dei sintomi. La maggioranza dei pazienti è stata gestita in regime ambulatoriale e di DH (96%) e solo una minoranza di casi ha richiesto il ricovero (4%).

Conclusioni: Quella presentata è la prima serie di pazienti pediatrici studiati nell'ambito di una Sincope Unit. Questo modello organizzativo si dimostra efficace sia in termini di gestione clinica e accuratezza del percorso diagnostico e terapeutico del paziente, sia termini di gestione delle risorse economiche.

O308

DIFFERENCE IN TRENDS OF RS AND T AMPLITUDE DURING STRESS TEST IN NORMAL AND IN ISCHEMIC PATIENTS

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Background: RS and T wave amplitude is often observed in ECG stress test. Trends in RS and T wave amplitude during stress test in normal subjects seem to show telediastolic and telesistolic volume changes respectively, as they present a specular behaviour according to the Frank – Starling law.

Aim: to find differences in RS and T amplitude trends in ischemic patients during stress test respect to normal subjects.

Method: 22 ischemic patients (20 males, 2 females, mean age 48 years) and 20 healthy subjects (15 males, 5 females, mean age 38 years) underwent to ECG stress test performed according to Bruce protocol. Standard 12-leads ECG was recorded using PC-ECG 1200 (Norav Medical Ltd.) device.V5 lead was used as less influenced by motion artifacts R peak detection was performed using a derivative-threshold algorithm. T apex was detected as the height of the T wave with respect to the baseline subsequent to each R peak. A wavelet multiscale analysis was used to decompose the signal into trend and noise components. The wavelet filter (acting as a low frequency pass filter) filters out also respiratory modulations. In comparations between two groups the standard t-test is used; confidence intervals are computed with 95% significance.

Results: RS amplitude trend were similar in two groups of patients showing no significant difference in left ventricle diastolic compliance. The most important differences were observed in T wave amplitude trend shape between two groups of patients demonstrating that the systolic performance in this kind of patients is principally affected.

Conclusion: the most important difference was found in T wave trend shape between ischemic patients and normal subjects. These findings suggest, as expected, that the systolic performance is affected primarily in ischemic patients. It could represent a useful tool in classifying ischemic patients with silent ischemia and negative stress.

O309
PREVALENCE OF TYPE 1 BRUGADA ELECTROCARDIOGRAPHIC PATTERN EVALUATED ON 12-LEAD 24-HOUR HOLTER MONITORING

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Purpose. Spontaneous type 1 ECG pattern (BrECG) is a risk factor in Brugada syndrome, however it is probably underestimated because of the well-known BrECG fluctuations. Aim of the study was to analyze in a large population of Brugada patients the prevalence of type 1 BrECG using 12-lead 24-hour Holter monitoring (12L-Holter), its correlation with the time of the day and reproducibility.

Methods. We collected 303 12L-Holter recorded in 251 patients. Thirty-eight patients (15%) had from 2 to 4 12L-Holter. Seventy-six (30%) exhibited spontaneous type 1 BrECG at basal ECG (group 1), 175 (70%) had only drug-induced type 1 BrECG (group 2). Thirty-two (13%) had syncope, one aborted sudden death and 218 (86%) were asymptomatic. 12L-Holter was recorded in the right precordial leads both at the 4th and 2rd intercostal space and all 12L-Holter recordings were analyzed independently by two cardiologists. To evaluate the circadian fluctuations of the BrECG, 4 periods were considered: 12 midnight-6 am, 6 am–12 noon, 12 noon-6 pm and 6 pm-12 midnight. Type 1 BrECG was defined as "permanent" (>85% of the 12L-Holter recording), "intermittent" (<85%) or "absent".

Results. Fifty-two (68%) out of 76 group 1 patients showed type 1 in at least one 12L-Holter, in 9 (12%) of them type 1 BrECG was persistent at all the 12L-Holter; 24 (32%) never had spontaneous type 1 at 12L-Holter: in 6 of them the type 1 BrECG had been documented only during fever. Thirty-five (20%) out of 175 group 2 patients developed intermittent type 1 BrECG at 12L-Holter recording; in the remaining 80% type 1 BrECG was never recorded. Spontaneous type 1 BrECG on 12L-Holter was present in 33% of symptomatic and 34% of asymptomatic patients (p=NS). Spontaneous type 1 BrECG was more frequently recorded between 12-noon and 6 pm (52%) than in the other three periods (p< 0.001). Eleven out of the 38 patients (29%) with more than one 12L-Holter showed discordant results concerning the presence of spontaneous type 1 BrECG between one Holter and the other.

Conclusions. 12L-Holter recording significantly increases the chances to identify spontaneous type 1 BrECG. At the opposite, some patients with BrECG recorded during fever may never show type 1 ECG at 12L-Holter. Considering the higher sensitivity of 12L-Holter recording as compared to periodic 12 lead ECGs in documenting the diagnostic BrECG, in selected cases, such as children or