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R2 Block 6 CAT Aug 2014

Reference:

BC Sun, et al. Randomized Clinical Trial of an Emergency Department Observation Syncope Protocol Versus Routine Inpatient Admission, Annals of Emergency Medicine; Aug 2014

Clinical question:

Will ED syncope protocol reduce resource use without adversely affecting patient-oriented outcomes?

Introduction:

Syncope accounts for 740,000 annual ED visits with yearly hospital costs of $2.4 Billion. Patients in intermediate risk tend to be admitted frequently when no cause for syncope can be found. Current admission practices for syncope are costly, and are generally characterized by low diagnostic yield. Goal of the study is to see if an ED syncope observation protocol and discharge can reduce admission rate while preserving patient safety.

Methods:

Randomized clinical trial at 5 ED's March 2010 – Oct 2011. All ED's had an observation room adjacent to the ER staffed with midlevels and attending emergency physicians. Intermediate risk pts were randomized 1:1 to either inpatient stay or ED observation. ED protocol consisted of cardiac monitoring for 12 continuous hours, 2 serial troponins and a transthoracic echocardiogram if a murmur was heard on PE. Maximum ED stay was 24 hours and treating ED team made final disposition.

Participants:

Pts age >50 with intermediate risk factors defined as not having any high risk criteria such as ventricular arrhythmia, exertional syncope, severe cardiac valve disease, EF <40%, long QTc>500. Also pts in low risk with symptoms c/w orthostatic hypotension or pts deemed to not need any further testing were excluded. Total screened 2274, eligible 287, consented 124. Total of 60 pts in the ED protocol group and 58 in the inpatient group followed through with treatment plan.

Results:

A total of nine pts from the study group were admitted to the hospital for a rate of 15%. Total length of stay for the observation group was 29 hours compared to 47 hours for the inpatient group. Mean hospital costs at index visit was $1,400 for the observation group and $2,420 for the admission group.

Limitations:

Half of all pts at the facilities were excluded for being high risk based on clinical judgment and not criteria which significantly decreased overall participation. This may have resulted in selection of healthier pts participating in the study.

There was no standardization for diagnostic workup as an inpatient which makes it difficult to assume a cost benefit for ER observation which had a strictly defined algorithm.

Results and discussion:

Without a defined algorithm for the inpatient stays so the comparison groups are not similar. It is not possible rule out using similar protocol on the inpatient floors would save the same amount of money as ER observation. Overall it was a flawed study in that one arm had a set algorithm and the other was left to inpatient provider preference.