Impact of the pre-hospital management of acute abdominal pain on the in-hospital treatment

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Background:

Abdominal pain is the most common reason for ambulance calls and emergency department visits in Estonia. 15% of all ambulance calls are associated with abdominal pain. It is the main cause of repeated ambulance call within 24 hours. The objective of this study was to evaluate whether the ambulance personnel should try to put out a specific diagnosis when it comes to acute abdominal pain.

Patients & Methods :

129 adult patients were included into the study. Severity of abdominal pain was measured via VAS. Retrospective analysis of data was performed to evaluate whether specific diagnosis description and pain management in pre-hospital settings affect the management in the Emergency Department (ED). The primary outcomes were time staying in the ED and a surgical intervention in 48 h after admission. Secondary outcome such as accuracy of an ambulance diagnosis was reported.

Data collection:

Data was collected from Estonia National E-ambulance system and the North Estonia Medical Centre (NEMC) databases during routine quality control of cases that were diagnosed by NEMC ambulance staff as K20-K93 or N20-N23 according to ICD-10 and that were brought to NEMC in a six month time period (01.09.2017-28.02.2018).

Results & discussion :

Authors did not find any significant difference in length of staying in the ED between patients with correct pre-hospital abdominal pain diagnosis (median 278 min) and patients which were admitted to the ED with incorrect diagnosis (median 288 min). There is no statistically significant difference found between those two group patients in the need for surgical interventions: 14.8% (8/54 pts) vs. 14.7% (11/75 pts). Nonspecific abdominal pain was the ED diagnose in 13.9% (18/129 pts) of cases.

Authors also found, that the accuracy of an ambulance diagnosis in comparison with the diagnosis on discharge was revealed in the less than half of cases: 45.7% (59/129 pts). Pre-hospital diagnosis was more accurate (Table 1.) in groups of acute appendicitis: 75% (3/4 pts); gall bladder problems: 73.7% (14/19 pts); renal colic: 65.5% (19/29 pts). The accuracy of diagnosis was significantly higher in group with VAS 5-10: 57.9% (22/38) than VAS 1-4: 38.9% (7/18 pts) ($p < 0.03$).
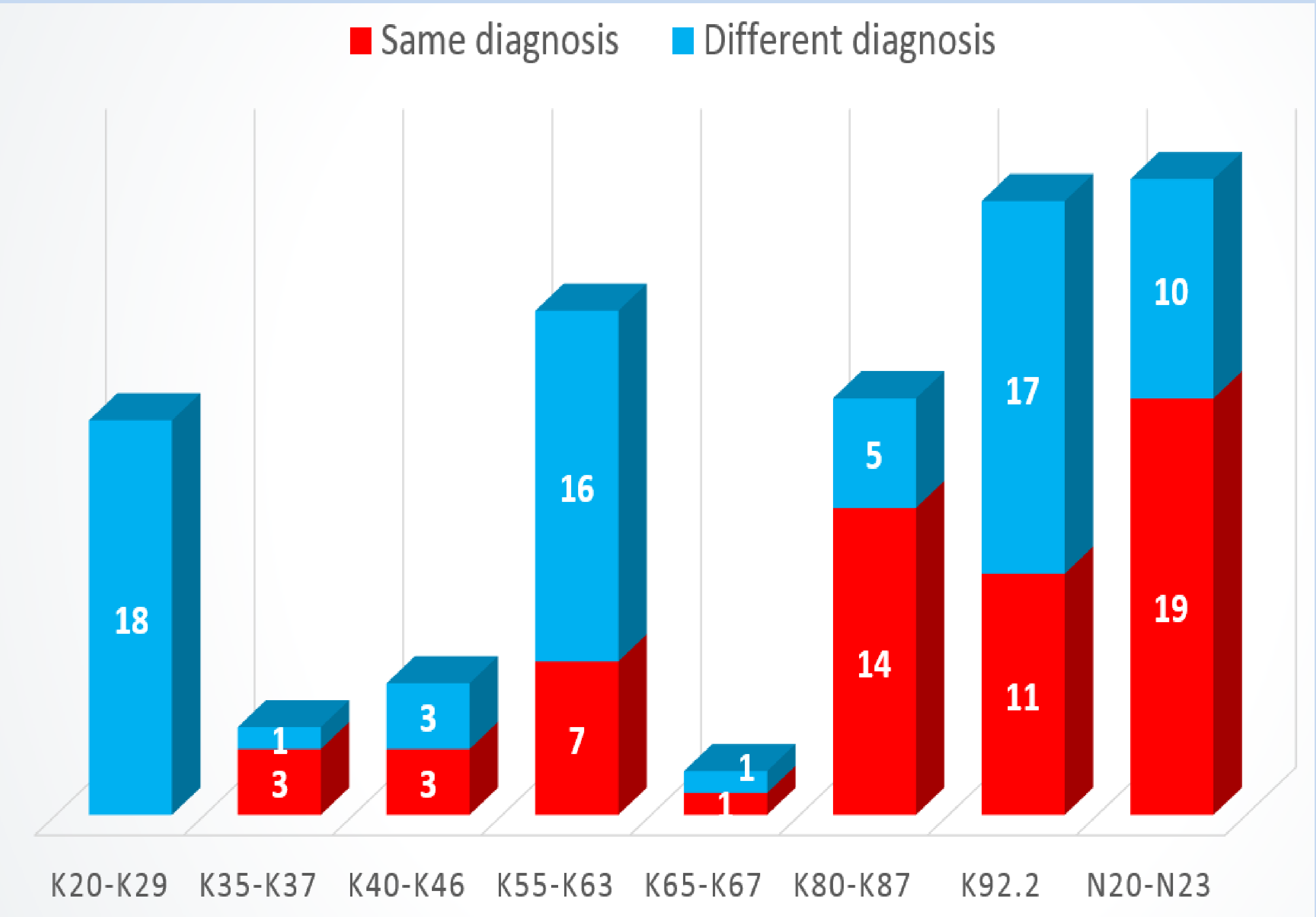

Table 1 : Accuracy of diagnosis in different ICD 10 groups in prehospital phase

Conclusion & perspectives :

Accuracy of pre-hospital abdominal pain diagnosis is low and does not significantly impact either diagnostic process in ED either the need for surgical intervention. It reasonable to use syndrome based diagnosis in pre-hospital settings in patients with abdominal pain.