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How important is pain assessment for triage code assignment in the emergency department?

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Abstract

Introduction:

Triage provides an initial assessment of patients in the emergency department (ED) by identifying priority clinical conditions. The triage nurse uses decision-making flowcharts for the main clinical problems (e.g. trauma, urological problems, chest pain) and may include pain among the criteria for priority code assignment. The aim of the study was to assess pain in patients presenting to the ED and the short-term analgesic treatment they received. A further aim was to assess the appropriateness of the priority code assigned to patients with the main problem of 'abdominal pain', in order to measure the possible over- or underestimation of the code, taking into account the pain reported at triage.

Methods:

In a sample of patients presenting to an Italian ED between December 2022 and February 2023, pain intensity was measured using the NRS (Numerical Rating Scale), the VAS (Visual Analogue Scale) and the CAS (Colour Analogue Scale). Assessments were made at triage (T0), 30 minutes (T1) and 60 minutes (T2) after triage. Analgesia was recorded on the data collection sheet. The appropriateness of the triage priority code of 'abdominal pain' was then retrospectively assessed. The code was reassigned taking into account the decision flowchart used, the triage data collection form, and the level of pain reported by the patient at T0. The analyses were carried out using Excel$^®$.

Results:

A sample of 441 patients was evaluated, of whom 228 were female (52%), aged between 14 and 98 years. The main presenting problem was 'eye problems' (24.3%), followed by 'trauma' (12.7%) and 'abdominal pain' (11.6%). At triage, 8.6% of patients were given a red code (emergency), 48.5% a yellow code (urgency), 38.3% a green code (uncritical) and 4.6% a white code (low priority). There were 141 patients (32%) with pain. Mean pain scores on the NRS (7.1 T0 - 6.3 T1 - 6.1 T2) were consistently higher than those on the VAS (6.2 T0 - 5.1 T1 - 4.9 T2) and CAS (5.5 T0 - 4.8 T1 - 4.4 T2). Of the patients with pain, only 22 (15.6%) received analgesia at T2.

Even in the subgroup of the 51 patients with 'abdominal pain', the mean values for the NRS (7.7 T0 - 6.3 T1 - 6.2 T2) were always higher than those for the VAS and the CAS. Only 6 (18.7%) patients with 'abdominal pain' received analgesics at T2. Thirty-five patients with 'abdominal pain' received yellow code (68.6%), the others received green code. None received a red code and, correctly, none received a white code (not provided for in the specific flowchart). The evaluation of the appropriateness of the triage code assigned to the patients with 'abdominal pain' shows that, taking into account the NRS, 21 of the 51 patients should have had a different priority code (10 cases were overestimated and 11 cases were underestimated); whereas, taking into account the VAS, the discrepancy was 20 codes (13 overestimated and 7 underestimated).

Conclusions

The study shows that the level of pain is not the same on the three scales used and that the mean values of the NRS are higher at each time point (T0, T1 and T2) compared to the VAS and CAS. It appears that analgesia was used in a low percentage of patients with pain. Furthermore, the results suggest that when

considering the VAS, there were fewer cases of underestimation of triage codes in cases of 'abdominal pain'.

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