HOW MUCH OF PATIENT DOSE IS UNJUSTIFIED IN CT HEAD & ABDOMEN EXAMS ?

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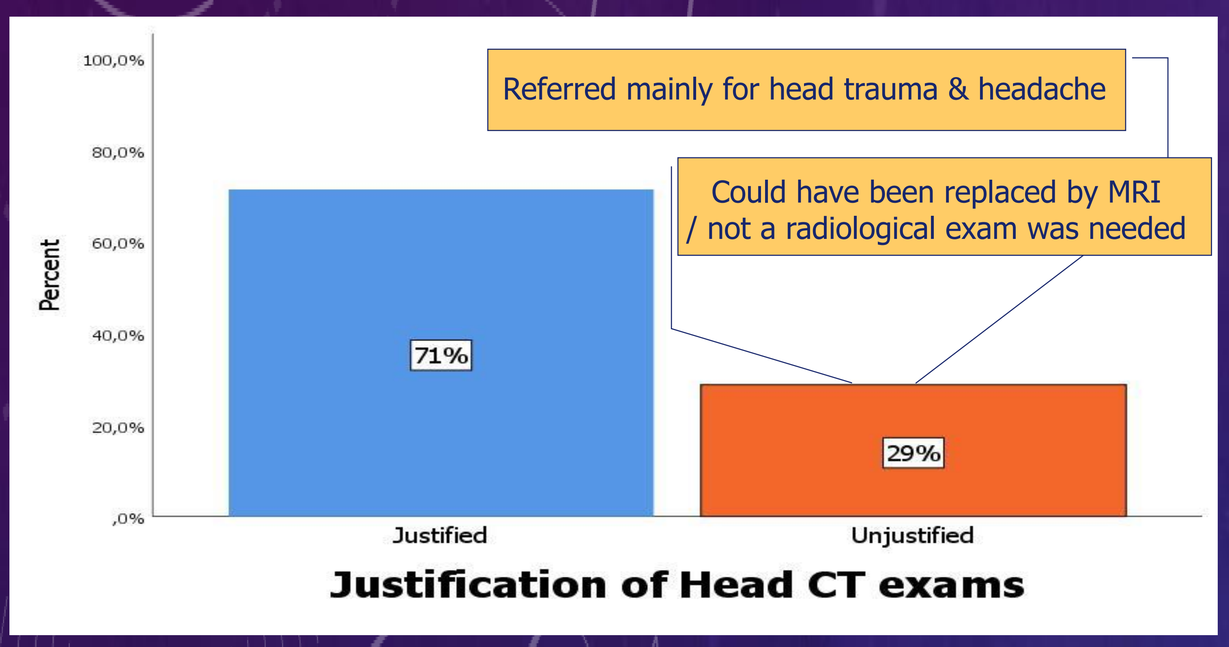
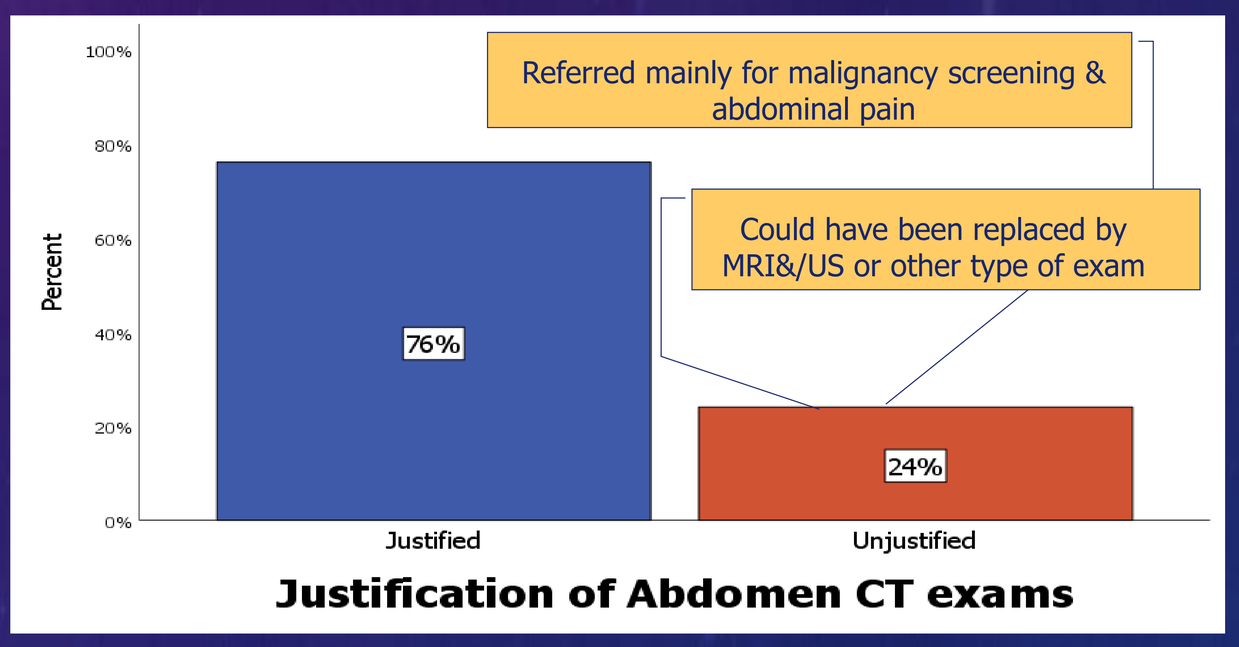
Introduction: Justification of medical exposures, especially of the high dose CT exams, should be fully implemented. Studies have shown that a significant number of referred CT exams are not justified since other diagnostic methods with less or no irradiation could be more appropriate. The purpose of this study was the investigation of the unjustified CT head and abdomen exams and the evaluation of patient doses in a tertiary Greek hospital.

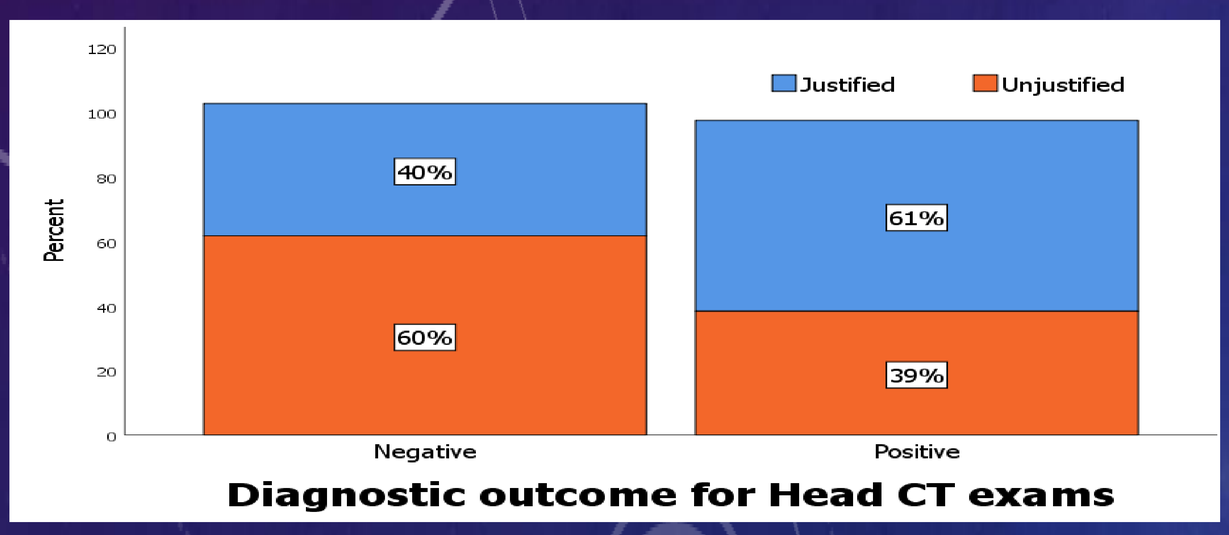
Materials and Methods: Two radiologists reviewed and evaluated the justification of 209 CT Head and 283 CT Abdomen referrals based on the American College of Radiation Appropriateness Criteria® and medical expertise. Patient status (emergency or not) and diagnostic outcome (positive/negative) were recorded. Effective doses were calculated based on Dose-Length-Product indications.

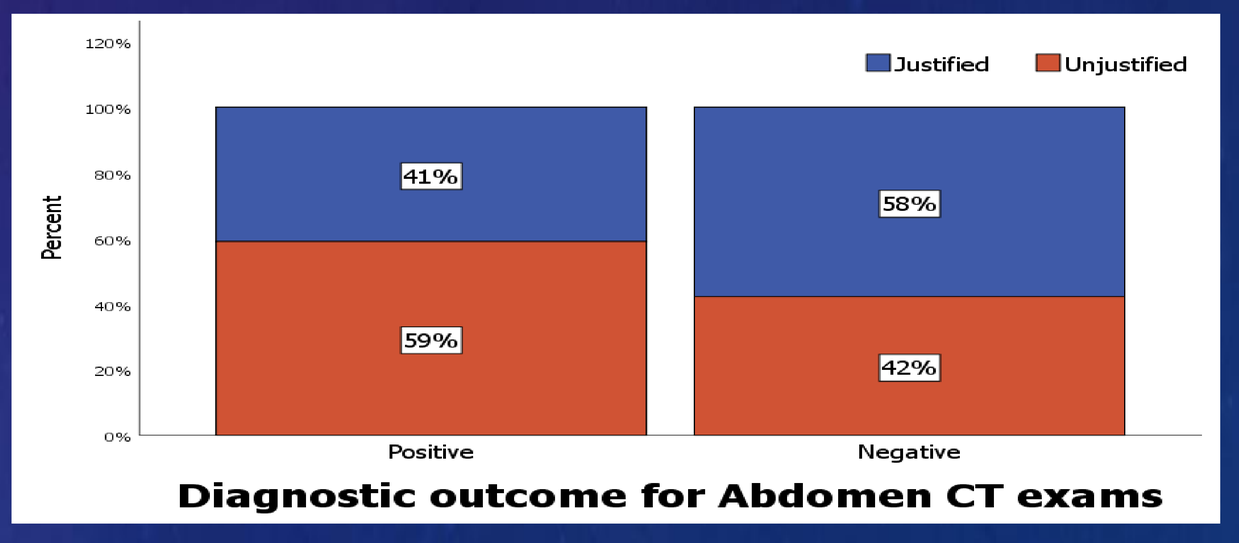
Results:



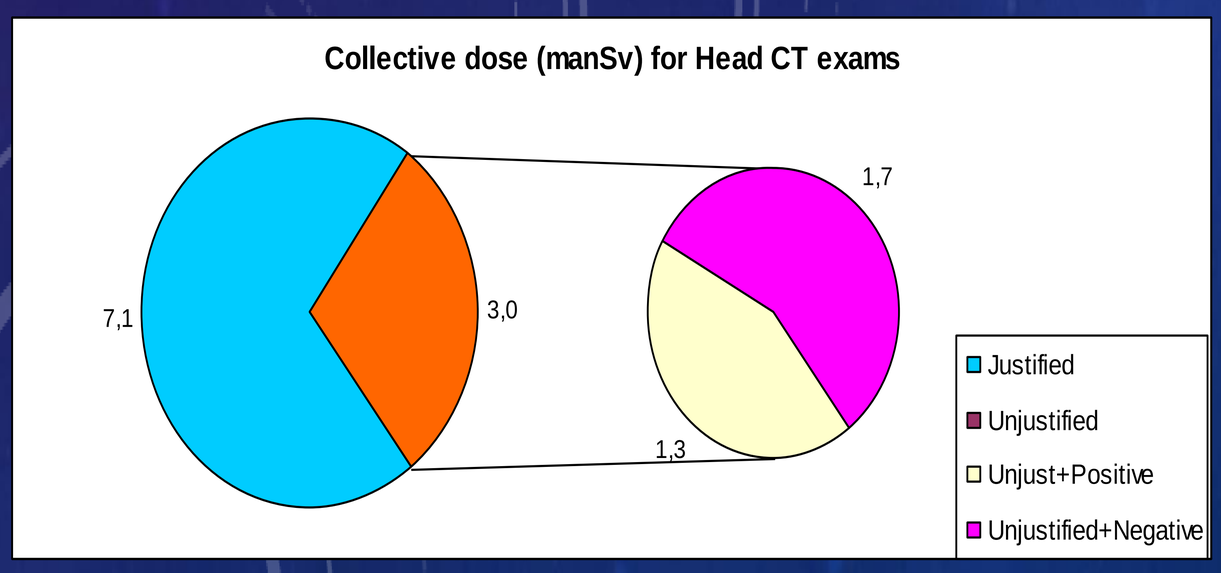


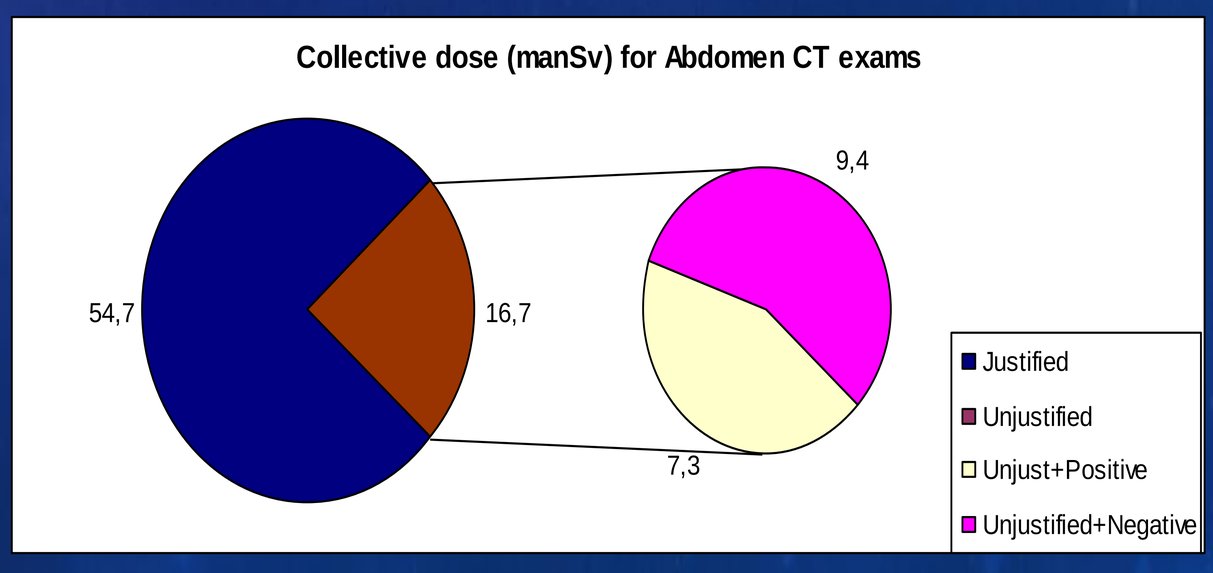
Most of the unjustified examinations were referred for the non-emergency patients (p<0.0001).





The odds of having negative outcome for the unjustified exams compared with the justified ones were twofold (p<0.0001).





Conclusion: The non-implementation of referral criteria by clinicians for CT Head and Abdomen exams leads to a nearly 14% of unnecessary patient doses.