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followed by post processing using SharpViewCT in children. The usage of APPF increases the acceptability of low dose images without compromising the diagnostic information and hence, facilitates patient dose reduction.

PRS-3

Socio-economic variation in the use of CT scans in young people in the north of England, 1993–2002

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Purpose: To assess the socio-economic variation in young people having CT scans in the North of England between 1990 and 2002

Materials and methods: Electronic data were obtained from Radiology Information Systems of all nine National Health Service hospitals in the region. Data related to CT scans, including sex, date of scan, age at scan, number of scans and type of scan were assessed in relation to quintiles of Townsend deprivations scores obtained from linkage of census data with postcodes.

Results: During the study period, 39,676 scans (23,705 [60%] in males) were recorded on 21,089 patients. The number of scans and patients scanned differed significantly in relation to quintiles of deprivation, with increasing numbers of scans and patients associated with increasing area-level deprivation. Significant associations were also seen between deprivation quintiles and age at scan, age at first scan, type of CT scan, and the number of scans per patient.

Conclusion: Social inequalities exist in the numbers of young people undergoing CT scans with those from deprived areas more likely to do so. Higher prevalence of trauma and accidents would account for some of the increase. These findings imply that certain groups within the paediatric population receive higher radiation doses than others due to medical procedures, notably CT.

PRS-4

Impact of radiation dose and protection in the Italian paediatric radiological literature

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Purpose: Radiation protection and awareness of radiation exposure in the paediatric population remains a critical point recently emphasized by the wider use of MDCT technology. These topics have recently gained more attention and many researchers are involved. To ascertain the impact of the radiation protection issue on the Italian radiological literature, the abstract books of the Italian Society of Medical Radiology (SIRM) biennial congress and the original papers published on “La Radiologia Medica” - the Italian journal of radiology - were retrospectively analysed from 2004 to 2010.

Materials and methods: A search in the abstract books of the SIRM congress and a medline search in “La Radiologia Medica” was made using as key words: low dose, dose reduction, dosimetry and radiation protection, all matched with “paediatric patients” or “paediatric population” terms. The abstracts and papers selected according to the impact of radiation dose were classified in three groups as follows. Mentioned: radiation dose was addressed in any form; secondary: radiation dose was one of the subjects of the paper; primary: radiation dose was the main subject of the paper.

Results: 6478 abstracts and 745 papers (total of 7223) were analysed. Only 44 abstracts and 5 papers matched the key request. Concerning the impact of radiation dose: among the abstracts 13/44 were classified as primary, 9/44 as secondary, 22/44 as mentioned; among the papers 3/5 were classified as primary, 1/5 as secondary, 1/5 as mentioned.

Conclusion: Paediatric radiology has significantly more often dealt with radiation exposure and protection but the papers focusing on these topics remain a minority. However a slight increase in the trend has been recently observed, but the arguments need strong impetus to stimulate researchers to focus on the problem.

PRS-5

Awareness of radiation protection issue in paediatric trainees. A questionnaire study

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Purpose: The number of radiological investigations is rapidly increasing in the paediatric population, along with the wider and diffuse use of MDCT. In parallel, radiation protection is becoming a major issue, and better knowledge is now required, especially for physicians involved with care for infants and children. To ascertain knowledge levels on radiation protection among Paediatric trainees, a simple anonymous questionnaire was administered.

Materials and methods: A 12-question-multi-choice questionnaire aiming to analyse knowledge levels on risks and awareness in exposing infants and children to common X ray investigations was administered to a population of 35 Paediatric trainees of various years of training. The data were then elaborated using a non-parametric analysis by the software SPSS for Windows®.

Results: 28/35 (80%) questionnaires were completed in full. With a generous pass mark of 50%, only 47% of the Paediatric trainees passed. In more detail, only 32% of them knew the ALARA principle, less than 15% of them knew the risk of induction of fatal carcinoma by a CT of the abdomen, and more dramatically still, 42% of them think that panoramic radiography can be carried out easily in pregnancy, wearing just a protection shield.

Conclusion: The study demonstrates an urgent need to improve knowledge of radiation protection and relative risks among junior doctors, especially if they care for children, due to the higher radiosensitivity of this age population.

PRS-6

Emergency low-dose pediatric CT-scan: single acquisition with bi-phasic iodinated contrast injection

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