photon radiotherapy in order to deliver supplemental irradiation. Brachytherapy in early-stage prostate cancer should be considered. Special positioning (prone or decubitus) and fully distended bladder to minimize bowel irradiation. Surgical omentoplasty, dexon, vicryl mesh and tissue expanders to mobilize the bowel away from irradiated area. Surgical clips placement are useful for precise tumor localization and delineation of tumor bed. Delivery of only a fraction, not higher than 1.8–2 Gy daily. Reduction of total dose and eventually employment of scheduled rest periods during RT. Hormonal therapy could shrink the prostatic gland (downsizing) in prostate cancer patients and thus reduce the radiation field size. Steroid-induced femoral head osteonecrosis represents an aseptic and ischemic disease developing after chronic administration of steroids in IBD patients. Keep doses within femoral head tolerance. Care must also be taken to age associated osteoporosis in geriatric patients.
Discussion: A special attention should be given to RT dose and technique, in order to minimize post-RT complications.

NATIONAL PATIENT DOSE SURVEY IN DENTAL CBCT AND ELABORATION OF NATIONAL DRLS

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Background: The aim of this study is to present results from the national patient dose survey in cone beam CT (CBCT) used in dental practice, and to elaborate national diagnostic reference levels (DRL).
Materials and methods: Patient doses were measured with calibrated kerma-area product (KAP) dosemeter Diamentor E2 (PTW Freiburg), installed on the tube housing exit. Patient head was simulated with a standart CT head phantom. The size of the radiation field was measured with Gafchromic film placed on the imaging detector. Organ doses and effective dose E were calculated with PCXMC v.2.0 (STUK) by Monte Carlo simulation. Pilot measurements were performed on three CBCT: one NewTomVG (QR-Italy)and two ILUMA–Imtec 3M (USA).
Results: CBCT dose varied substantially depending on the device, field of view (FOV), and selected technique factors. Up to 3 fold differences were found between KAP for adult patient, with lower values for the system NewTomVG, working with tube current modulation.
Discussion: Complete set of ongoing measurements and analysis will be presented, as well as findings and conclusions.

COMPARISON OF ^{111}IN-OCTREOSCAN AND ^{99M}TC-TEKTROTYDE IN TECHNICAL MATERS [RADIOLABELING, QUALITY CONTROL, INJECTED DOSES AND PATIENT RADIATION EXPOSURE]

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Introduction: The imaging of positive SSTR's tumours with radiolabeled analogues of somatostatine has a broad use in oncology. The radiopharmaceutical of choice was ^{111}In-DTPA-D-Phe-Octreotide. The use of ^{111}In is facing some problems because it depends in cyclotron production which leads to restricted availability and very high cost.
So to overcome these problems the use of ^{99m}Tc was selected as "easy- to-get" radionuclide with low cost. The ^{99m}Tc-EDDA/HYNIC-Tyr^3-Octreotide can image the tumours with SSTRs.
We report a comparison between the ^{111}In-Octreoscan and ^{99m}Tc-Tektrotyde in radiolabeling, quality control, injected doses and patient radiation exposure.
Methods: The radiolabeling procedure of both radiopharmaceuticals were carried out according to the SPC of the products and the European Pharmacopeia. After the labelling, both drugs undergo quality control which includes pH measurements, visual control and instant thin layer chromatography (TLC), in order to be released.
One vial ^{111}In-Octreoscan is used for one single patient and one vial of ^{99m}Tc-Tektrotyde is used for two patients. The dose of the ^{111}In is ~5 mCi and the dose of ^{99m}Tc is ~ 20 mCi in accordance with our Department protocols.
Results: To label ^{111}In-Octreoscan takes 30 min and to label ^{99m}Tc-Tektrotyde takes almost 50 min. The quality control of ^{111}In needs only one TLC system (~ 20 min) where for the ^{99m}Tc needs two TLC systems (~ 40 min). The patient's injected with^{111}In have higher radiation exposure than the patients injected with ^{99m}Tc.
The imaging protocol of ^{111}In is a 2-day, one day longer than ^{99m}Tc (1-day protocol).
Conclusions: ^{111}In- Octreoscan is a well standardized and well know radiopharmaceutical with easy labelling procedure and quality control. Its cons are the 2-days protocol, the higher radiation exposure, the higher cost and the short availability.
^{99m}Tc- Tektrotyde is a new radiopharmaceutical which isn't well defined. Its radiolabeling procedure and quality control are long. ^{99m}Tc-Tektrotyde pros are the 1-day protocol, the lower radiation exposure, the lower cost for two patients and it's broad availability.
Both radiopharmaceuticals have advantages and disadvantages. The choice depends on the Nuclear Medicine Department's resources, protocols and qualification standards.

BLOODLESS MEASUREMENT OF HEMATOCRIT

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Background: The direct estimation of the hematocrit at surgery without blood sampling procedures and laboratory analyzes, could yield significant time savings for the clinician, especially when managing emergencies.
The purpose of this study is the construction of a biotechnology device, in order to determine the hematocrit value, in a bloodless non invasive method, that can be used for an immediate diagnosis.
Materials and methods: Using technology similar to that of an "oxymeter", we are in the process of manufacturing a portable device, which in contact with a large vase (jugular, femoral or brachial artery etc), will be able to count the number of red blood cells per cubic millimeter. The red blood cells are identified by their concave surface, separating them from the remaining blood cells (white blood cells , platelets, etc), where light scattering occurs in a different way.
Results: After the completion of the prototype which called «Hemo-detector», measurements of hematocrit will be performed using this device to patients. The hematocrit values measured will be compared with them upon laboratory tests (blood draw) to assess the reliability of this novel non invasive method.
Discussion: The immediate and bloodless measurement of hematocrit is an important help for the clinician where he will be able to evaluate a significant number of diseases. Also, pain and stress for the patient can be avoided. Furthermore, since this will be a low cost method resources for the patient as well as social health funds can be saved.

THE ROLE OF DOSIMETRIC CALCULATIONS IN OPTIMIZING PEPTIDE RECEPTOR RADIONUCLIDE THERAPY BY [^{177}LU-DOTA^0, TYR^3] OCTREOTATE

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Aim: Response and toxicity prediction is essential to the implementation of Peptide Receptor Radionuclide Therapy (PRRT) for neuroendocrine tumors. Radiolabelled somatostatin analogue [^{177}Lu-DOTA^0, Tyr^3] octreotate stands as a promising therapy tool. Specific dosimetry is a crucial factor in patient treatment planning. Dosimetric techniques implemented in our Institution are presented.
Methods: In our Institution, neuroendocrine tumor treatment, by radiopeptide infusion via intrahepatic arterial catheterization, is a well established technique. Kidney protective agents are also included in our protocol. The individualized patient dosimetry calculations were based on planar and SPECT scintigraphy images. Counts were