exact volume of diluent and a closed system transfer device (CSTD). Nurses just have to dilute the solution into the bag under a laminar air-flow hood using the CSTD. Although 2-part syringe methods were found in the literature, 3-part syringes with limited contact between the elastomeric tip and butusulfan solution (reference 62.8426, Codan) were chosen because leaks were observed with the 2-part syringes during the technical study. PhaSeal devices: Injector to close the syringes and a Connector-Luer for infusion bags were selected as CSTDs. All these devices are polycarbonate free.

7 new kits were prepared for a period of 8 days without contact. The results of the evaluation show that nurses and physicians (n = 14) were overall dissatisfied by the previous protocol (neither good nor bad: 35.7%; bad: 21.4% and very bad: 35.7%) while the majority preferred the new one (very satisfied: 28.6%; satisfied: 42.9%; neither good nor bad 7.14%, no response: 21.4%). Overall nurses and physicians answered that new modalities limit the risk of dose errors (95%) and occupational exposure (86%).

Conclusions Implementing this procedure has improved handling practise with good satisfaction.

No conflict of interest.

OUTCOMES EVALUATION OF AN INTERNATIONAL WORKGROUP ON ROBOTICS: A MULTICENTRE STUDY

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Background The growing demand for patient and operator safety in anticance drug compounding led to an increasing demand for automation. As 18 hospitals have now introduced APOTEC Achemo, it became necessary to set up a round table at which all users could share their knowledge and expertise. Therefore, in 2009 a workgroup on robotics (named APOTECA Community) was established. Every year its members meet to share their needs with the manufacturer and assemble new ideas. The annual system upgrade is a consequence of the meeting. 160 new requirements, merged into 4 upgrades, have been collected up to now. The requirements can be classified into the following main topics: a friendlier user interface; software integration with medical health records;

Results 14) were overall dissatisfied by the previous protocol (neither good nor bad: 35.7%; bad: 21.4% and very bad: 35.7%) while the majority preferred the new one (very satisfied: 28.6%; satisfied: 42.9%; neither good nor bad 7.14%, no response: 21.4%). Overall nurses and physicians answered that new modalities limit the risk of dose errors (95%) and occupational exposure (86%).

Conclusions Implementing this procedure has improved handling practise with good satisfaction.

No conflict of interest.

PET/CT IMAGING WITH [11C]CHOLINE AS A RADIOPHARMACEUTICAL FOR THE DETECTION OF RECURRENT PROSTATE CANCER: A RELIABLE PRODUCTION METHOD AND QUALITY CONTROL

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Background PET/CT Imaging with the radiopharmaceutical [11C]-choline has become a useful tool in the detection of prostate cancer, mainly used in the assessment of treated patients presenting rising PSA and negative response after conventional imaging procedures. Tracer uptake on tumoral tissues is correlated to an increased synthesis of membrane substrates: [11C]-choline is trapped by phosphorylation taking part on phosphorylcholine turnover. The sensitivity of this diagnostic method (almost 100%) is greater than CT or PET-[18F]FDG implying the superiority of the PET-choline procedure. PET-choline was first investigated in the late 1990s although no specific monographs are included in main Pharmacopoeias. The use of this powerful tracer is now based on Clinical Trials but, on September 2012, the FDA approved the production and use of ‘Choline C11 Injection’ to help the detection of recurrent prostate cancer.

Purpose To define the key role the pharmacist plays in the preparation of [11C]-choline IMPD for Clinical Trials, presenting the tracer production in the details. Quality Control for characterising the final product and releasing it as ‘solutio injectabilis’ are also described.

Materials and Methods Cyclotron (Eclipse, Siemens) Automated synthesizer (ModularLab, Eckert Ziegler) GMP grade reagents and disposables [11C]Labelling based on ‘wet’ methylation chemistry

Results [11C]carbon dioxide (50 Gbq) was produced by cyclotron and delivered to the synthesiser placed in our radiopharmacy. Carbon dioxide was first reduced to methyl iodide, then dimethyl-aminoethanol was [11C]-methylated. Finally the product was purified and filtered obtaining 15 Gbq of sterilised [11C]-choline (16 min total time and 30% yield). Radiochemical purity was higher than 98% and other CQs were performed in accordance with EPs [18F] FDG monograph.

Conclusions Due to the short half-life decay (20 min) [11C]-choline production must be performed in PET facilities with on-site cyclotron and radiopharmacy. We presented a reliable and safe method for producing [11C]-choline for 3–4 patients’ PET scans.

No conflict of interest.