

Aim and objectives We started this retrospective prospective study about ophthalmic treatments to verify any non-refunds or incorrect prescriptions and to guarantee a better allocation of available resources and prescriptive appropriateness.

Material and methods We created an Excel file to compare data extracted from AIFA's registers and medical records, and to verify the correct request for reimbursement of prescribed treatments.

Results 400 prescriptions were paper based (not web based as should be the case) with no AIFA registration. Use of paper based AIFA requests: failure to register the new therapy in patients already signed in for other diseases or drugs, failure to transfer four patients from other centres. Of 179 patients treated, 175 dispensations were identified and registered *ex novo*, involving: 43 requests for reimbursement (obtained from paper based requests), registration of four patients and inclusion of six previously unsolicited treatments. During meetings, incorrect data from a few patients emerged (personal data or treated eye) with consequent correction in six medical records and registers. All folders were registered on the AIFA platform with consequent request of 43 refunds as payment by result, equal to 26 337 586€ (1 531 255€ derived from 25 dispensing requests not previously made and emerged because of the retrospective control carried out in November 2019).

In the Official Gazette No 45 (23 February 2017), a capping agreement was introduced, for each eye, of a refund of the drug's cost following the seventh treatment in naïve patients. The team agreed to continue monitoring prescriptions and this resulted in a saving of about 40 500€ from the request for 90 refunds as a bonus. On 8 October 2019, the AIFA introduced a simplified multi-drug monitoring register so the pharmacist does not have to dispense drugs and there are no refunds.

Conclusion and relevance Collaboration between clinicians and pharmacists is ongoing, monitoring the correct transfer of patients from the old to the new register. It can be concluded that a figure dedicated to the management of drugs can guarantee clinical and economic drug administration, ensuring greater appropriateness and better allocation of resources.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

11SG-027 CARBON FOOTPRINT OF A STERILISATION UNIT

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Background and importance Preparation of the Greenhouse Gas Emission Balance (GGEB) has become mandatory in hospitals but is not yet carried out in healthcare services.

Aim and objectives The objectives were to carry out the GGEB of a sterilisation unit, to calculate the carbon cost of a central sterile services department (CSSD) and to propose improvements to limit these emissions.

Material and methods Three aspects were selected from a document carried out on one of the establishments of our hospital group (GH): environment, staff and equipment. The data relating to the carbon cost of staff transport, waste produced, consumables used, equipment maintenance and energy consumption, as well as the water consumed by the unit

were calculated or measured and related to 1 year of activity. They were then associated with the carbon emission factor created to produce the GH GGEB. The carbon balance obtained was applied to the CSSD national production indicators (S point).

Results The GGEB unit was 88 tons of CO₂ produced per year. Energy (electricity, steam from the Parisian District Heating Company (PDHC) network) and water consumption accounted for 75% of emissions and equipment maintenance for 18%. Waste and staff transport generated 3.5% and 3.0% of the carbon footprint, respectively. The carbon cost related to consumables could not be defined due to a lack of information from the main suppliers. In 2019, the unit treated 7 565 710 S points, so the treatment of 1 S point released 12 g of CO₂.

Conclusion and relevance Energy and water constituted the first emitting item in this balance sheet, which remained underestimated due to a lack of data. The methodology remains to be validated and the emission factors used to be confirmed, in the absence of a bibliography on this subject. Nevertheless, this work can serve as a basis for calculating the carbon cost of any surgical operation. Finally, to limit these emissions, the use of the PDHC network and the installation of a chilled water system on the autoclaves have been implemented in the unit. This work initiates a reflection on the carbon footprint of this activity and the development of actions to reduce these emissions.

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11SG-028 BECOMING A GRADUATE HOSPITAL PHARMACIST: A FRENCH NATIONAL SURVEY

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Background and importance Currently, in France, pharmacy students undergo 5 years of pharmacy studies at the university. To be able to work in a hospital pharmacy, they must complete 4 additional years of specialisation 'residency'. In Europe, the Common Training Framework (CTF), drawn up by the European Association of Hospital Pharmacy (EAHP), recommends this specialisation to improve the quality of pharmacy education and thus comply with the European Statements of hospital pharmacy.

Aim and objectives The objectives of our study were: (1) to assess the areas of activities of pharmacists in French hospitals and (2) to describe their training during the residency.

Material and methods A 52 question survey was written by the French National Federation of Hospital Pharmacy Residents (FNSIP-BM). It was sent to 297 graduate pharmacists from March 2019 to June 2019. The questions concerned their type of internship completed during the 4 years of specialisation, their training and also their first job.

Results Over the study period, 154 (51%) graduate pharmacists responded to the survey. Among them, 137 (89%) were hospital pharmacists and 17 (11%) worked in pharmaceutical industries or health agencies. For their first job, pharmacists worked mainly in various departments as clinical pharmacists

(n=34; 21.8%), in a chemotherapy preparation unit (n=18; 11.5%) or they managed the drug supply chain (n=17; 11%), medical devices (n=14; 9.2%), drug monitoring (n=8; 5.5%), clinical trials (n=8; 5.2%), sterilisation of reusable medical devices (n=4; 2.9%) or as radiopharmacists (n=3; 1.8%), as well as several other settings (49 (32%)). Regarding their training, 142 (92%) had an additional diploma: 91 (59%) had a specialised university diploma, 34 (22%) had a master's degree and 5 (3%) had a PhD. Finally, most of them worked in a university hospital (39%), 35% in other public hospitals, 14% in private hospitals, 4.5% in industrial establishments and 4.5% in other structures, such as health agencies or humanitarian organisations.

Conclusion and relevance This survey raises awareness of the increasing involvement of pharmacists in hospitals. The results of the survey are in line with the EAHP's European Statements. Furthermore, we can see the responsibilities of French hospital pharmacists in the fields of medical devices, sterilisation of reusable medical devices, radiopharmacy and health agencies.

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1ISG-029 CRANIOPLASTY: A REVIEW OF CUSTOMISED CRANIOPLASTY IMPLANTS

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Background and importance Cranioplasty implants have evolved considerably in recent years. Until 2019, Custom bone was the leader of the customised cranial implant market. Currently, a multitude of medical devices are available and the market for these implants is shared between several manufacturers. As implantable medical devices, these implants fall under pharmaceutical control in France. Because of their high cost, French regulations require a competition procedure to be launched.

Aim and objectives The purpose of this study was to provide an overview of the various refunded customised cranioplasty implants, so we can get highlight technical arguments to define the best procurement strategy in touch with the surgical team.

Material and methods We identified refunded implants in France using the national healthcare database. This first step was to identify all of the different manufacturers to contact them and obtain technical information. We then analysed and extracted information from the technical data sheet of the suppliers. We conducted a literature review of available implant use in cranioplasty (biomaterial composition and characteristics, production period, implant fixation method, cost). Twenty other university hospital centres were questioned to determine which implant was used most often. Finally, all of these data were synthesised in a comparative table.

Results We identified five refunded implants available on the French market and each had different characteristics (biomaterials, method of implantation). The results of this study showed that the Custom bone implant remained the most used at this time (9 of 20 university hospital centres). Furthermore, there were many comparative studies between

synthetic implants and autologous bone. However, there were no comparative studies between different types of marketed implants.

Conclusion and relevance The lack of data made it difficult to objectively guide the choice of one implant over another. More comparative studies are needed to assess which method or biomaterial is better for the case study. This work showed that it is more appropriate to orient the purchasing strategy towards a multi beneficiary market. Thus the decision will be taken collectively with the neurosurgeons.

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1ISG-030 ECONOMIC IMPACT OF BIOLOGICAL MEDICINES ON A THIRD LEVEL HOSPITAL

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Background and importance High costs of biological medicines (BM) are a financial issue for hospitals. The arrival of biosimilar drugs (BS) improved their accessibilities by reducing their prices.

Aim and objectives To analyse the costs of BM administered in the hospital setting and BM dispensed in the hospital pharmacy. To evaluate the economic impact of introducing BS in our hospital.

Material and methods A retrospective observational study was performed in a tertiary hospital between 2015 and 2019. All BM were included. Botplus, electronic prescription and dispensation programmes were used as sources of information. The main variables collected were: active substance, brand name, ATC code, number of drug units dispensed and cost. Types of BD were: monoclonal antibodies (MAb), recombinant proteins (RP) and vaccines or immunoglobulins (V).

Results The number of biological active substances included in the hospital formulary was 89 in 2015 and 108 in 2019 (an increase of 21%). BS introduced during the study period were: insulin glargine, epoetin α , pegfilgrastim, rituximab, trastuzumab, etanercept, infliximab and adalimumab. BM were classified as: MAb (32%), RP (48%) and V (20%). According to the ATC index: L (39.8%), J (18.5%), B (16.7%), A (9.3%), V (4.6%), H (2.8%), R (2.8%), C (2.8%), S (1.9%) and M (0.9%).

The pharmaceutical expenditure on BM was: 8 298 177€, 9 123 228€, 10 329 683€, 10 942 396€, 12 533 034€ in 2015, 2016, 2017, 2018 and 2019, respectively. The total expense was 51 226 517€ (72.5% MAb, 27.3% RP and 0.2% V). Biological active substances with the highest budgetary impact were: infliximab (7 277 499€), adalimumab (7 023 066€ and etanercept (4 416 568€). BS expenditure during this period was 1 713 288€. Direct cost savings were 1 466 034€. The introduction of BS caused an average decrease of 18% in the prices of reference BM. The hypothetical cost in the case of not having used BS was 10 509 104€. Total savings estimated were: 11 975 408€ (56.6% infliximab BS, 19% etanercept BS and 17.1% trastuzumab BS).