**TCH-017** EYE DROPS MADE FROM PLATELET-RICH PLASMA: DEVELOPMENT AND USE OF A NEW MASTER FORMULA

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**Background** Eye drops made from platelet-rich plasma are used in the treatment of ocular surface dysfunctions after LASIK refractive surgery, severe dry eye and corneal ulcers.

**Purpose** To describe the process of enriching the plasma, and the dosage used.

**Materials and Methods** This master formula was developed from the information obtained from a literature search in PubMed and Embase.

**Results** We extracted blood in 10 ml tubes containing 3.2% sodium citrate. The amount required depends on the length of treatment. From each 10 ml of blood processed, we obtained 3–4 ml of platelet-rich plasma, sufficient for one week of treatment. We received 10 tubes of blood from each patient. These were centrifuged at a speed of 1400 rpm for 10 minutes to obtain maximum concentration. The tubes were kept in an upright position, to avoid mixing the contents and waste. The eye drops were prepared in sterile conditions in a laminar flow cabinet. Using a sterile Pasteur pipette, we removed the top layer of the centrifuged blood which is the platelet-rich plasma. The plasma was collected in syringes and was then stored in sterile light-resistant containers, each containing 2–3 ml of platelet-rich plasma. It remained stable for a week in a fridge, or 3 months in a freezer. Patients were treated with a dose of 5–10 drops per day. The duration varied according to the diagnosis (between 1 week and 1 month of treatment).

**Conclusions** Platelet-rich plasma eye drops made in the Pharmacy Service after consulting previously published research and according to Royal Decree 1751/2001 are a new and alternative treatment for corneal ulcers, dry eye and post-LASIK dysfunction of the ocular surface.

No conflict of interest.

**TCH-018** FORMULATION OF AN ORAL SOLUTION CONTAINING “POTION JOULIE” PHOSPHORUS TO COUNTERACT THE SHORTAGE OF PHOSPHONEUROS

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**Background** In October 2011 a shortage of Phosphoneuros became apparent. This oral solution containing phosphorus is prescribed in the treatment of diseases where phosphorus intake is essential. None of the available drugs was suitable for paediatric needs. Literature searches were conducted to identify formulas in national formularies and pharmacopoeias or already developed in other compounding hospitals, but no consensus “Potion Joulié” formula was found.

**Purpose** To provide patients with a concentrated oral solution of phosphorus. A feasibility study was performed. The aim was to give an expiry date of 3 months.

**Materials and Methods** A batch of 3 bottles was produced. Visual appearance, pH, phosphorus and sodium contents were determined. At M0, M1 and M3 a microbiological assay was performed according to the Ph Eur (5.1.4).

**Results** The formula we adopted consists of (for 100 ml): 20.40 g of phosphoric acid 50 per cent, 16.5 g of sodium phosphate dibasic anhydrous, 50 mL of sterile water and simple syrup. The phosphorus strength of 67.4 mg/ml is close to that of Phosphoneuro. For 12 weeks, the solution appeared unchanged, clear and colourless. pH about 4.14 remained constant. Sodium and phosphorus contents were stable and the observed values were within 10% of the theoretical values. Microbiological results were in accordance with European Pharmacopeia: viable aerobic bacteria ≤10^4 (CFU/ml), fungal ≤10^0, no E.coli.

**Conclusions** Microbiological compliance and physicochemical stability were verified at 12 weeks according to the standards of the European Pharmacopeia. After users had insisted, the French Regulatory agency urged Bouchara Recordati to produce Phosphoneuros again, effective in May 2012. This is an example of the hospital pharmacist’s role in compounding drugs to allow patients to continue their treatment in case of shortages of commercial products.

No conflict of interest.