Background and importance Ruxolitinib is a JAK inhibitor indicated for myelofibrosis and polycythaemia vera in adults. The department of haematology started a non-profit study to evaluate ruxolitinib 5 mg in patients affected by Hodgkin's lymphoma. Because the company patent holder was not interested in sponsoring this study, the investigators used their research funds to meet the cost of Jakavi 20 mg tablets, which were cheaper than the other dosages.

Aim and objectives The aims of the hospital pharmacy were to improve the pharmaceutical formulation of capsules of ruxolitinib 5 mg, starting with Jakavi 20 mg tablets, consistent with departmental financial resources, and to conduct uniformity of mass and stability studies of compounding.

Material and methods The first step was to measure the volume of a tablet of Jakavi 20 mg to calculate the amount of starch needed to produce 100 capsule size 3 (0.30 mL) ruxolitinib 5 mg. For each batch of 200 capsules, 50 tablets of Jakavi 20 mg and 6 mg of starch were used; 80 samples were allocated to conduct uniformity of mass single dose preparations and stability studies. For the stability test, three samples of 20 capsules for each one, in amber glass bottles at storage temperatures of 25°C to 2°C for 12 months were prepared. Every month, ruxolitinib concentrations were determined by reverse phase HPLC.

Results In total, 102 packs of ruxolitinib 20 mg were purchased, instead of 408 packs of ruxolitinib 5 mg. Uniformity of mass studies demonstrated that no more than two of the individual capsule masses deviated from the average mass by more than 10% and none deviated more than twice that percentage. Regarding the stability test, the first 6 months of data showed that the percentage of ruxolitinib has not changed significantly. Therefore, all the aims of the study were achieved.