

DEVELOPMENT OF A 25% BENZYL BENZOATE LOTION FOR A CASE OF RESISTANT NORWEGIAN SCABIES

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Background and importance

Norwegian scabies is a severe type of scabies affecting immunocompromised patients and is caused by *Sarcoptes scabiei* subspecies *hominis*, a severe, highly contagious variant unresponsive to first-line scabies drugs: permethrin and ivermectine



Aim and objectives

The aim of this study was to formulate a 25% benzyl benzoate lotion for the treatment of Norwegian scabies in an oncology patient who had previously received treatment with permethrin and ivermectin without result, and to evaluate the efficacy of this master formula (FM) and the degree of patient acceptance.

Material and methods

- ✓ A search of the **available literature** on the use of benzyl benzoate in Norwegian scabies was performed
- ✓ The described FMs and the **physicochemical characteristics** of the active substance were searched
- ✓ A **standard operating procedure (SOP)** was created following the guidelines of the **Good Manufacturing Practice Guide (GBPP)**
- ✓ The **patient's evolution** in terms of the lesions caused by the disease was monitored



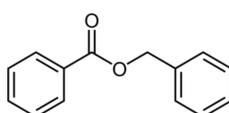
Results

We found literature supporting the efficacy of benzyl benzoate in the treatment of Norwegian scabies. However, there is no commercially available lotion containing this active ingredient at the required concentration.

Benzyl benzoate is a lipophilic liquid, practically insoluble in water and miscible in fatty and essential oils, which makes it necessary to formulate it in oily vehicles.

The formula designed was:

Benzyl benzoate..... 25g
Coconut oil 37,5g
Liquid petroleum jelly 37.5g



We use these oils because they are the ones we use in the laboratory for doing other formulas.

Modus operandi: Weigh the three components separately in a beaker. Mix the coconut oil, previously tempered in a water bath at 25°C, with the liquid petroleum jelly. Gradually add the above mixture to the benzyl benzoate and homogenise. Package in a polypropylene spray bottle. A shelf life of 30 days at room temperature was assigned according to GBPP.

It was administered alternately with the previously applied permethrin and after two weeks of treatment the patient's lesions improved and the itching disappeared.

Conclusion and relevance



- An effective, safe and well tolerated benzyl benzoate lotion has been formulated for the treatment of scabies refractory to first- and second-line drugs.
- The magistral formulation has again proved to be the only option in patients who have not responded to marketed drugs.
- The comparison with a control group would be the most appropriate and necessary, but with the number of patients we currently have it would not be possible in our center yet