

Intralesional Injection of OK-432 in Cystic Hygroma

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ABSTRACT

Background: Lymphangiomas are congenital malformations of the lymphatic system with characteristic dilated endothelium-lined spaces. It is vulnerability to infection or chemical irritants cause spontaneous reduction in size and in some cases complete resolution. Intralesional injection of OK-432 or Picibanil (lyophilized incubation mixture of Group A *Streptococcus pyogenes* of human origin) is slowly gaining recognition as its safety and efficacy standards have shown to avoid complications resulting from surgical interventions. The objective of this study was to evaluate the clinical outcomes of cystic hygroma patients who received OK-432 injections.

Methods: In between 2011 and 2013, six patients with cystic hygroma received intralesional injection of OK-432. All the patients were assessed clinically and radiologically either via ultrasound, computer tomography (CT) or magnetic resonant imaging (MRI) prior to and after receiving the injections. Patients' response towards treatment was classified as total shrinkage, marked shrinkage (greater than 50% reduction in size), slight shrinkage (less than 50% reduction in size) or non-responsive to treatment.

Results: Mean duration of follow-up was 12 months. Total shrinkage was achieved in one patient, marked shrinkage in three patients and one patient experienced mild shrinkage. Only one out of the six patients showed no response to treatment. None of the patients in this study experienced serious complications or adverse effects post intralesional injection of OK-432.

Conclusions: Intralesional OK-432 injection is an effective and safe alternative in treating cystic hygroma.

KEY WORDS:

Cystic Hygroma, Lymphangioma, OK-432, Picibanil

INTRODUCTION

Lymphangiomas consists of various sizes of lymphatic channels and cystic spaces ranging from microscopic channels (cavernous lymphangioma) to large cysts (cystic hygroma).¹ As these lesions enlarge; usually due to haemorrhage or infection, it causes cosmetic deformity and compression to adjacent local structures such as the airway and the surrounding vessels.²

Surgical excision has in the past been a popular therapeutic option for such malformations. However, it's high rate of

recurrence as a result of incomplete excision and other associated complications such as facial nerve paralysis, haematoma. Frey's syndrome and scarring has no doubt made it a less favourable option in present times.³

Therefore, non-surgical alternatives such as intralesional injection of sclerosing agents have become an accepted alternative in reducing morbidity whilst effectively treating the lesion.

OK-432 or Picibanil, is a sclerosing agent derived from a low virulence strain of *Streptococcus pyogenes* incubated with penicillin. It stimulates an inflammatory response that causes local inflammation resulting in regression of the lesion.⁴

The purpose of this study was to evaluate the clinical outcomes of cystic hygroma patients who received OK-432 injections.

MATERIALS AND METHODS

A retrospective review of six patients diagnosed with cystic hygroma and treated with OK-432 was carried out from 2011 to 2013 at the Otorhinolaryngology Department, Sarawak General Hospital (Table I).

The study sample comprised of two males and four females, age; ranged from one month to 49 years old (mean age was 15 years). All the patients underwent physical examinations, fine needle aspiration of the primary site and imaging either via ultrasound, computed tomography (CT) or magnetic resonance imaging (MRI), with documentations of the site and dimensions of the swellings. None of the patients received surgery, alcohol sclerotherapy or systemic corticosteroids prior to the administration of the intralesional OK 432 injections.

The intracystic fluid of the cystic hygroma was first aspirated, followed by injection of OK-432 (concentration, 0.01 mg/mL) with ultrasound guidance. The total number of injections performed was eight, with two patients who received more than one injection.

Post OK432 injection, all six patients underwent clinical examination and clinical photography to document the progress of the swellings. Patients' own subjective statement with regards to the size of the lesion post injection was also documented.

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