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ORIGINAL ARTICLE

Treatment of Human Scabies with Oral Ivermectin. Eczematous Eruptions as a New Non-Reported Adverse Event

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Abstract
Background: Oral ivermectin is an alternative therapy for human scabies infection due to its ease of administration and good safety profile. However, there is no definitive consensus on the optimal dosing regimen.
Objective: To describe the treatment of human scabies with different dosages of oral ivermectin and the possible adverse events.
Methods: 23 patients with human scabies were treated with oral ivermectin: 10 patients received a single oral dose of 200 μg/kg and 13 a dose of 400 μg/kg. A second, or even a third dose, was administered in cases of treatment failure.
Results: A complete clinical response was achieved by all of the patients. The first ten patients required at least two (80%) or three (20%) doses of ivermectin for complete resolution of the infection. The remaining cases resolved with a single 400 μg/kg oral dose. Within the first 72 h after the administration of oral ivermectin, new cutaneous lesions were observed in eleven patients (47.8%). Cutaneous biopsies showed signs of subacute eczema. The eruption was treated with topical corticosteroids and emollient therapy. There was no other new drug administration or a history of irritants. There was no history of atopic diathesis except for one patient.
Conclusions: Oral ivermectin is an effective therapy for the treatment of human scabies. A single 400 μg/kg oral dose demonstrated high efficacy and good tolerance. However, the appearance of eczematous cutaneous lesions induced by oral ivermectin has not previously been reported in the literature. Dermatologists should be aware of this possible adverse event.

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PALABRAS CLAVE
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tratamiento de la sarna en humanos con ivermectina oral. Erupciones eccematosas como nuevos efectos adversos no reportados

Resumen
Introducción: La ivermectina oral es una alternativa terapeutica en el tratamiento de la escabiosis humana debido a su fácil administración y buen perfil de seguridad. Sin embargo, no existe un consenso definido sobre un esquema adecuado de dosificación.
Objetivo: Describir el tratamiento de escabiosis en humanos con diferentes dosis de ivermectina oral y sus posibles efectos adversos. Métodos: 23 pacientes con escabiosis fueron tratados con ivermectina oral; 10 pacientes recibieron una única dosis de 200 μg/kg y 13 pacientes, una dosis de 400 μg/kg. Una segunda, e incluso, una tercera dosis fueron administradas en casos de fallo terapeútico.
Resultados: Todos los pacientes tuvieron respuesta clinica al tratamiento. Los primeros 10 pacientes necesitaron, al menos, 2 dosis (80%) o 3 dosis (20%) para conseguir una remisión completa de la infección. En el resto de pacientes se resolvió con una única dosis oral de 400 μg/kg. En las primeras 72 horas tras la administración de ivermectina oral se observaron nuevas lesiones cutáneas en 11 pacientes (47,8%). Las biopsias cutáneas mostraron signos de eccema subagudo. Se realizó tratamiento con corticoterapia tópica y emolientes. No había antecedentes de toma de otros fármacos, contacto con agentes irritantes ni historia de dermatitis atópica salvo en 1 paciente.
Conclusiones: Ivermectina oral es una terapia eficaz en el tratamiento de escabiosis humana. Una dosis única de 400 μg/kg demostró una alta eficacia y buena tolerancia. Sin embargo, la aparición de lesiones cutaneas eccematosas inducidas por ivermectina oral no había sido descrito previamente en la literatura y por tanto, consideramos que los dermatólogos deberían conocer este posible efecto adverso.

Introduction

Traditionally, ivermectin has been extensively used to control and treat onchocerciasis, a disease caused by the filarial worm *Onchocerca volvulus*. However, it has also been demonstrated to act strongly against a wide variety of insects, nematodes, and acarine parasites, including lice and scabies.[1,2]

Oral ivermectin has been recommended as a systemic alternative to topical scabicides due to its ease of administration, convenience, safety and favourable side effect profile. It has the additional advantage of alleviating the problems of noncompliance, misuse, and inadequate application associated with topical therapy. Therapy may be effective after a single 200 μg/kg dose for uncomplicated scabies, but multiple doses are usually required to achieve complete resolution.[1] Ivermectin has proven to be remarkably safe for different indications in adults, and it is well tolerated without serious adverse events. The majority of side effects reported in onchocerciasis and other filarial diseases are minor and rare. These side effects include mild gastrointestinal upset, abdominal pain, asthenia, somnolence, dizziness, pruritus and rare biochemical abnormalities such as hypertransaminasaemia and leukopenia.[2] Only rarely, cutaneous side effects following scabies treatment have been reported.[3]

We describe 23 patients with human scabies treated with oral ivermectin. We emphasize the development of an eczematous eruption in 11 of these patients, a finding not previously reported in the literature.

Materials and methods

This is a retrospective, observational, case-series study that included 23 otherwise healthy outpatients diagnosed with a human scabies infection who received oral ivermectin (200 μg/kg or 400 μg/kg). With the corresponding authorization, and after the signed informed consent by the patients, the medication was supplied, out of indication, by the Madrid Community Health Department. The diagnosis of scabies was based on typical clinical features and was confirmed microscopically by the demonstration of mites, eggs or faecal pellets (scybala) in skin scrapings. The severity of the disease was recorded as mild (less than 11 lesions), moderate (11–49 lesions), severe (50 or more lesions) or crusted (Norwegian). The intensity of pruritus was determined with a visual analogue scale (0–10). At baseline, clinical data were recorded, and a complete physical and dermatologic examination was performed. Baseline complementary tests included haematological and biochemical tests and serologic testing for hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV).

Patients were evaluated each 2 weeks after the first dose of ivermectin was administered and a physical examination including the collection of skin scrapings were repeated. The first 10 patients received a single 200 μg/kg oral dose of ivermectin. A second 200 μg/kg dose of ivermectin was administered 2 weeks later, in the case of treatment failure, which was defined as the presence of clinical signs of active scabies, new lesions and/or microscopic evidence of scabies. A third dose of ivermectin was administered at the