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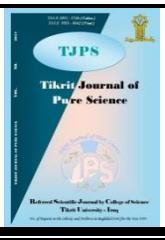

Evaluation the efficacy in healing from cutaneous leishmaniasis by intraregional injection of metronidazole solution with acetylsalicylic acid topically (pads)

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ABSTRACT

The cross sectional study was determined the efficaciousness of healing from oriental sore by intraregional injection of metronidazole with applying acetylsalicylic acid pads. The study was performed on 85 patients in age between 2-18 years (forty males and forty five females) in Tikrit city from March 2016 until August 2018, The cure rate was 77.64%.

The study showed the marked improvement the lesions. Scaring was minimal or absent following healing of treated lesions. The only side effect of treatment result localized pain and sometime reaction at web site of injection.

The study showed that the highest cure rate at age 6-10 years was 85% and at the age of 11 - 18 years the cure rate was 80% and at the age of 2-5 years, the cure rate was 66.6%.

This study was recorded the analysis of the healing from lesion in cutaneous leishmaniasis following administration of intraregional injection of metronidazole solution with applying acetylsalicylic acid pads is significant.

The aim of the current study has evaluated the efficaciousness of intraregional metronidazole injection with acetylsalicylic acid locally for healing of lesion from oriental sore.

Introduction

Leishmaniasis is caused by unicellular, flagellate, intracellular protozoa belong to the genus leishmania that transmitted from animal to human through the bite of a phlebotomine sand fly vector [1]. The oriental sore is a skin infection (also referred to as cutaneous leishmaniasis, tropical sore, chiclero ulcer, city boil or Aleppo boil) [2-3] is the commonest variety of leishmaniasis affecting humans [4,5].

The pathologic process of diseases: Once a person is bitten by the sand fly, promastigotes are introduced into the skin and enter small blood vessels and macrophages round the affected area. Thus, the parasites proliferate as amastigotes, then attack the immediate space using white blood cells known as lymphocytes and also the amastigotes are liberated from the macrophages [6]. A lump then forms and breaks open when the blood flow to the area is compromised. Though the lesion might become infected [7].

The clinical Manifestations of illness begins as a red papule as that later becomes unquiet, the develops to one or a lot of skin ulcers on exposed components of the body, largely the face, arms and legs and glandular disorder. The ulcer might modification in size and will seen otherwise throughout the course of infection, though most sores could also be painless, some might cause extreme incapacity[8-11].

The prevention of disease: There's no immunizing agent or prophylactic medication available. The sole way to prevent of disease is to avoid obtaining bitten by a sand fly [12,13]. Metronidazole 500 mg /100 ml Intravenous Infusion: In obligate anaerobic microorganisms, metronidazole is change into an active form by reduction of its nitro group, this binds to DNA and prevents nucleic acid formation, it is biological process [14]. It inhibits nucleic acid synthesis by disrupting DNA and inflicting strand breakage, metronidazole is associate antibiotic that is wont to treat a good type of infections, it works by

stopping the expansion of anaerobic bacterium and parasites, the half-life is 25-75 hours (neonates); 8 hours (others). Bioavailability is eighty percentage absorption from alimentary tract, protein binding (<20%), peak body fluid time is 1-2 hr, widely distributed; similar pattern for orally and intravenously. Metronidazole is metabolized within the liver by hydroxylation, oxidation and glucuronidation, over fifty percentage of the administered dose is excreted within the renal, regarding twenty percentage of the doses is excreted with feces [15,16].

The contraindications in patients with a previous history of hypersensitivity to drug or different nitroimidazole derivatives [17] .

Acetylsalicylic acid pads 0.5% and 2% has been shown to supply shedding of the horny layer of skin whereas not effecting qualitative or quantitative changes within the structure of the viable epidermis. The mechanism of action has been attributed to a dissolution of intercellular cement substance [18].

The key metabolites known within the urine once topical administration are salicyluric acid (52%), salicylate glucuronides (42%) and free salicylic acid (6%) [19] . nearly ninety five percentage of one dose of salicylate is excreted at interval twenty four hours of its entrance into the extracellular space. Fifty to eighty percent of salicylate is protein guaranteed to albumin [15].

The indication in dermatologic may be a topical aid within removal of excessive scleroprotein in hyperkeratotic skin disorders (including body, scalp, palms and soles) [20].

The adverse effect refers to signs of associate hypersensitivity, like rash, hives, itching, red, swollen, blistered, or peeling skin with or without fever, burning and scaling [18].

The contraindication is not be employed in any patient renowned to be sensitive to acetylsalicylic acid or the other listed ingredients and not be employed in kids underneath two years [17].

Material and methods

Observation, prospective study of patients who received intraregional metronidazole with applying acetylsalicylic acid pads were carried out to patients who in Salahudeen General Hospital, the work carried from March -2016 to August 2018.

The study has involved 85 patients (45 females and 40 males) with age range between 2-18 years. This material involve sore oriental healing once administration of the metronidazole intraregional with applying acetylsalicylic acid pads that diagnosed by medical specialty doctor. The course of metronidazole injection is 0.5 cc metronidazole injection multiple regional area then repeated after 10 days for 4-5 times with applying acetylsalicylic acid pads for five days only.

Information assortment included: age, healing of sore oriental and adverse effect.

For applied math analysis of the info, quantitative variables area unit expressed as mean ± standard deviation (SD) and qualitative variables as percentages. The student t-test was used for the analysis of quantitative variable and chi square test was used for qualitative variable. Value of $P < 0.05$ were thought-about statistically significant.

Results

All patients completed the current study. The study was designed to examine efficaciousness of healing of lesion from Aleppo boil after intraregional injection of metronidazole with applying acetylsalicylic acid pads in eighty five patients (45 females and 40 males). The efficaciousness of healing in 6-10 years is 85% and in 11-18 years is 80% (figure 1,2, and3) and in 2-5 years is 66.6% as (figure 4), ($P < 0.05$) which suggests the efficaciousness of healing in all told ages is significant. The length of healing is after 4-5 course of treatment with metronidazole injection and one course of applying acetylsalicylic acid pads (note: the course of metronidazole injection is 0.5 cc metronidazole injection multiple regional area then repeated after 10 days for 4-5 times with applying acetylsalicylic acid pads for five days only). The localized pain is seen and skin alteration (erythma, etc). (table 2).

It is important to determine the efficaciousness of healing from sore oriental healing per the age (table1).

Table1: The efficiency of healing from cutaneous leishmaniasis by intraregional injection of metronidazole with acetylsalicylic acid topically.

age	2-5 years	6-10 years	11-18 years	t-test	Total
Number of positive sample	30	40	15	-	85
Efficacy of healing	20 (66.6%)*	34 (85%)*	12 (80%)*	-	66(77.64%)
Mean	0.66 ± 3.57	0.85 ± 5.34	0.8 ± 3.03	-	0.77 ± 7.13
t-test	3.35*	1.06*	0.6*	5.55	

*: $P < 0.05$

*: The mark indicates significant differences.

Table 2: The incidence of localized pain and skin alteration after intraregional injection of metronidazole with acetylsalicylic acid topically for healing of lesion from cutaneous leishmaniasis.

age	2-5 years	6-10 years	11-18 years	Total number
The number of positive sample	30	40	15	85
Incidence rate of localized pain	30 (100%)	38 (95%)	13 (86.66%)	81(95.29%)
Incidence rate of skin alteration	20 (66.66)	25 (62.5)	5 (33.33)	50 (58.82)

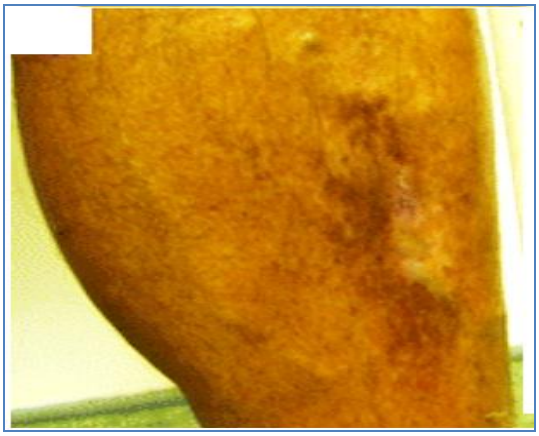

Figure 1: Healing from ulcer of cutaneous leishmaniasis.

Figure 2: Healing from ulcer of cutaneous leishmaniasis.

figure 3: Healing from ulcer of cutaneous leishmaniasis

Figure 4: Healing from ulcer of cutaneous leishmaniasis

Discussion

Oriental sore is an epidemic virulent parasitic disease and necessary public unhealthiest in several components of the planet together with in Iraq [21]. It is typically a self-limiting un wellness, however it should cause disfiguring and permanent scars. Treatment of oriental sore represents a serious therapeutic challenge. Unfortunately, no ideal medical care for oriental sore is known. Numerous general and topical treatments for oriental sore are projected.

They have incidence of adverse effects together with severe pain and typically reactions at the injection site [22].

Metronidazole was discovered in France in 1957 and has become the drug of selection of treatment of protozoa infection. It absolutely was afterward tested to be effective for each amoebiasis and protozoa infection [23] and for oriental sore [24-25] , however, in more studies its effectuality in oriental sore was not tested. Unfortunately intralesional flagyl injection was terribly painful and every one the Jundishapur Journal of Microbiology [26]. During a clinical test in Al-Iraq, effectiveness of intralesional flagyl injection was significant; and 85-87% of patients cure with 1-3 injection [27].

Conclusions

The study was recorded the effectuality of healing from cutaneous leishmaniasis following administration of intraregional injection of flagyl with applying acetylsalicylic acid pads is significant.

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تقييم فعالية الشفاء من داء اللشمانيات الجلدي عن طريق حقن من محلول ميترونيدازول موضعيا مع لصق منصات حامض استل سالي سيليك موضعيا

عماد نعمان شريف

قسم الصيدلة ، كلية الطب ، جامعة تكريت ، تكريت ، العراق

الملخص

تم تحديد دراسة مقطعية مستعرضة حول فعالية الشفاء من داء اللشمانيات الجلدي عن طريق الحقن الموضعي من مادة ميترونيدازول مع وضع منصات حامض اسيتيل ساليسيلك. اجريت الدراسة على 85 مريضا تتراوح اعمارهم بين 2– 18 سنة (40 ذكور و45 اناث) في مدينة تكريت من شباط عام 2016 حتى اب سنة 2018 وكانت نسبة الشفاء (77.64%).

وأظهرت الدراسة تحسن ملحوظ من الاصابة. وكان هناك ندبة ضئيلة او غائبة بعد معالجة الاصابة. التأثير الجانبي الوحيد من العلاج هو الالم الموضعي وبعض الاحيان تفاعلات في موقع الحقن.

اظهرت الدراسة ان اعلى نسبة شفاء كانت في عمر 6–10 سنوات هي 85% وفي عمر 11-18 سنة كانت نسبة الشفاء 80% وفي عمر 2–5 سنوات كتمن نسبة الشفاء 66.6%.

تم تسجيل هذه الدراسة لتقييم الشفاء من الاصابة من داء اللشمانيات بعد اعطاء الحق الموضعي من محلول ميترونيدازول مع وضع منصات حامض اسيتيل ساليسيلك بشكل ملحوظ .

استهدف من هذه الدراسة هو تقييم فعالية حقن محلول ميترونيدازول مع وضع منصات حامض اسيتيل ساليسيليك لشفاء الاصابة من داء اللشمانيات الجلدي.