

Clinical Pattern and Treatment of Erythema Multiforme among a Sample of Sudanese Subjects

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Abstract

Background: Erythema multiforme is a rare hypersensitivity reaction, caused by different etiological agents affect the skin and mucus membranes.

Material and Methods: A retrospective chart review of 110 patients was conducted. Data were collected on the types of erythema multiforme, associated symptoms, etiological agents and treatment.

Results: Over 110 patients with erythema multiforme 54 (49.1%) were males and 56 (50.9%) were females. Mean age of the patients was 35 years old. Recurrent episodes of the disease were detected in 17.3% of the patients. Fever was found to be the most common associated symptom. Oral mucosal lesions were presented more than the skin lesions. Incisional biopsy was carried out by 15.5% of the patients. The three most common causative agents were antibiotics, bacterial infection and antimalarial drugs. Steroids was the treatment of choice in most of the cases (33.6%) followed by antibiotics (27.2%).

Conclusion: Erythema multiforme major was the most common form of the disease.

Keywords: Erythema multiforme, Triggering factors, Target lesions, Steroids

Introduction

Erythema Multiforme is an acute type IV hypersensitivity reaction to a variety of precipitating factors, it affects the skin and the mucus membranes. Sometimes it may return as a recurrent infection [1].

The cause of erythema multiforme is often unclear, and most of the cases are idiopathic. Infections are the most common cause of erythema multiforme including bacterial infections like mycoplasma pneumonia, viral infections most commonly by HSV, fungal and parasitic infections [2].

Drugs may also play a role in causation of erythema multiforme like sulpham drugs and anticonvulsants including barbiturates, carbamazepine and phenytoin etc [1].

Erythema multiforme come in different 4 forms major, minor, Steven-Johnson syndrome, toxic epidermal necrolysis. Like other diseases the erythema multiforme has prodromal symptoms (influenza) before the erosion of skin lesion [3].

The characteristic manifestation of the disease appears as target lesion with a regular round shape and 3 concentric zones: a central dusky red area, a paler pink or edematous zone, peripheral red ring.

The lesion begins as red purpuric macules that progress into papules which combine to become plaques 4.

In cases of erythema major and Steven-Johnson syndrome there is mucosal involvement in oral cavity, eyes and genital area which is more aggressive in form of Steven-Johnson syndrome [1,4].

Diagnosis of erythema multiforme is done mainly by clinical examination and taking history from the patients. Biopsy is not necessary needed, unless sometimes when the case is not clearly defined [3].

Erythema multiforme is a self-limited disease, but sometimes it may require treatment.

Treatment of erythema multiforme depends mainly on the symptoms of the patient so might be given oral antihistamines, analgesics, local skin care and soothing mouthwashes, steroids might be also given.

The patient must stop any other drugs that may contribute to the disease.

The current study is aimed to investigate the pattern, behavior and treatment of erythema multiforme at Khartoum Teaching Dental Hospital.

Methodology

Ethical approval was obtained from ministry of health, and university of khartoum faculty of dentistry.

This descriptive retrospective cross-sectional study was carried out to investigate the clinical pattern and treatment of erythema multiforme at khartoum teaching dental hospital and khartoum hospital of dermatology.

Total coverage of all patients files from 2009 to 2018 was included accordingly the sample size was 110 patients, the age of patients range between one month and 87 years old.

Results

1. Among 110 patients diagnosed with erythema multiforme 54 (49.1%) were males and 56 (50.9%) were females.

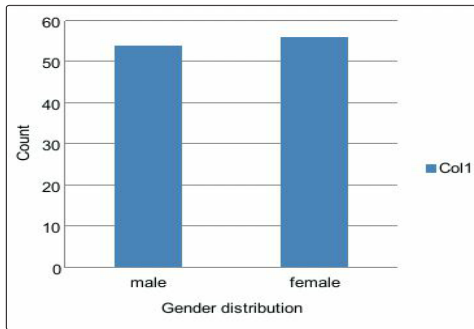


Figure 1: Show gender distribution of (EM) patients

2. Regarding the age distribution the youngest patient was found to be one month old and the oldest was 87 years old. The mean age was 35 years old.

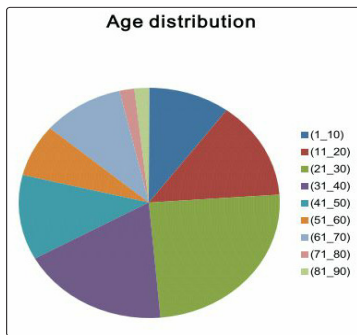


Figure 2: Show age distribution

3. Concerning the medical status of the patients 70 (63.6%) were fit, 38 (35.5%) were not fit.

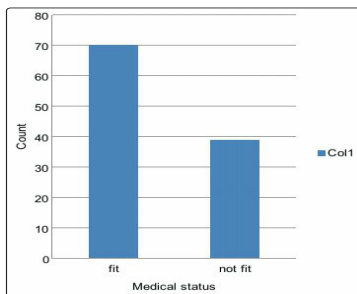


Figure 3: Show medical status

4. Regarding viral screening test 9 patients had HIV and 1 had HBV.

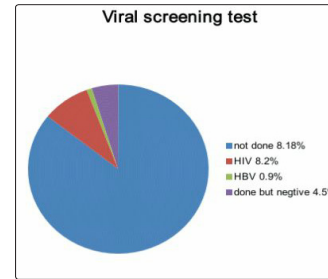


Figure 4: Show viral screening test

5. About the type of E.M the most common type was found to be the Major type 73 (66.4%) then the minor type 9 (8.2%) then TEN 15 (13.6%) and the least common was SJS 12 (10.9%).

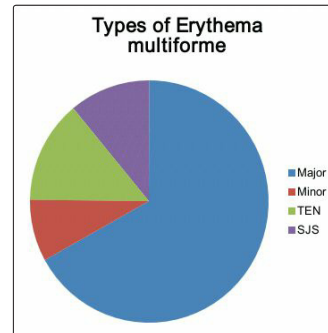


Figure 5: Shows types of erythema multiforme

6. Regarding the site of the lesion the oral cavity was the most common site.

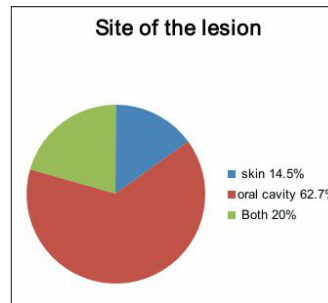


Figure 6: Shows site of the lesion

7. Concerning the recurrence of the lesion 19 (17.3%) patients had recurrent lesion, 90 (81.8%) did not.

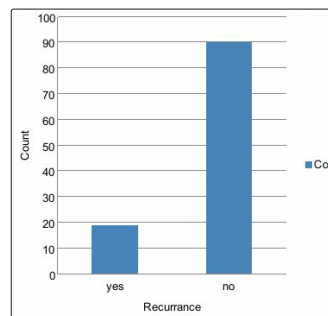


Figure 7

8. Regarding the triggering factors of E.M history of antibiotic intake 13 (11.8%) was the most common cause followed by bacterial infection and history of antimalarial.

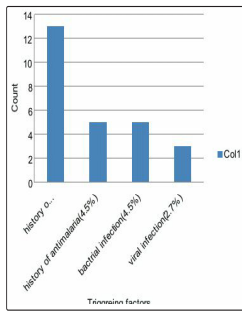


Figure 8: Shows triggering factors

9. In 42 patients with E.M fever was the most common associated symptom 11 (10%) followed by difficult in eating, followed by burning sensation.

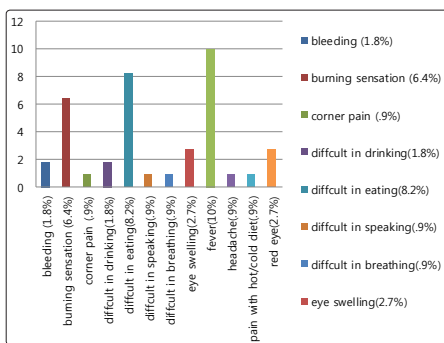


Figure 9: Shows associated symptoms

10. Incisional biopsy was carried out by 17 (15.5%) patients

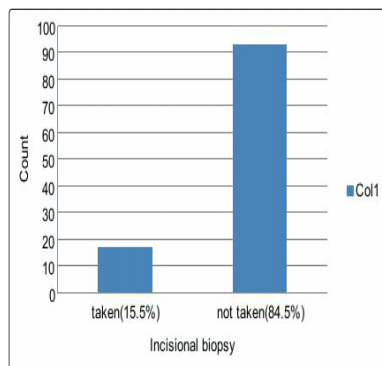


Figure 10: Show incisional biopsy

11. Regarding management antibiotic was treatment of choice in most of patients 31.8% followed by steroids 29 (26.4%).

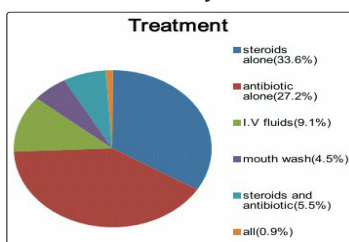


Figure 11: Show treatment

Discussion

Erythema multiforme is a rare hypersensitivity reaction type 4 that affects both males and females at any age. It comes in 4 different forms Major, Minor, SJS or TEN. It has many etiological factors including drugs, viral or bacterial infections. It may come with different associated symptoms for example fever, headache, difficulty in eating and drinking etc. There are different ways to treat E.M but mostly steroids.

Regarding the investigations that were made about erythema multiforme, 50.9% of the patients were females and 49.1% were males. On the other hand Leaute-labreze C, et al. found that 66.6% of the patients included in their study were males and 33.3% were females [5].

The difference between the two results is probably because Leaute-labreze, et al. were only concerned about pediatric patients, while in the current study all patients at any age were included. More over their investigation included 42 patients with erythema multiforme, while authors investigated in 110 patients.

About the age of patients included in the study, the authors found that the youngest patient was one month old and the oldest patient was 87 years old. The values were barely the same as Chang YS, et al. results, in which the youngest patient was 2 month old and the oldest patient was 95 years old [6].

Findings of the current study revealed that 64.2% of the female patients were medically fit and 33.9% were not. While in male patients we found that 62.9% were medically fit and 37% were not.

Authors noticed that 9 of the patients who had viral screening test were HIV positive and five patients were HIV negative. One patient was HBV positive.

Results revealed that the most common form of erythema multiforme was E.M major (73%) followed by toxic-epidermal necrolysis (15%) followed by Steven-Johnson syndrome (12%) and the least common form was erythema multiforme minor (9%). Whereas Sanchis JM, et al. found that most of the patients involved in the study had erythema multiforme minor (50%) followed by erythema multiforme major (36.4%) and Steven-Johnson syndrome was least common form (13.6%) [7].

Regarding the site of the lesions, analysis reviewed that 62.7% of the patients included had their lesions in the oral cavity and 14.5% had theirs in the skin. 20% of erythema multiforme was detected in both sites.

Few cases had their lesions in the genital tract.

Results showed that 19 patients of 110 with recurrent episodes of erythema multiforme, on the other hand results investigated by Chang YS, et al. showed 5 patients of 207 with recurrent erythema multiforme [6]. Moreover investigations made by Huff JC, et al. found that 22 of the patients had more than one episode [8].

Investigations showed that there was a female predominance regarding the recurrent episodes of erythema multiforme. While Heinze A, et al. findings showed male predominance [9].

Unlike other researches there was no enough data about the triggering factors that cause erythema multiforme; it appeared that 81 cases did not show a causative agent.

Among the remaining 29 patients the most causative agent was found to be history of taking antibiotic followed by history of taking antimalarial and bacterial infection and the least offending agent was found to be viral infection. On the other hand Chang YS, et al. found that drugs were the most common cause, but Leaute-Labreze C, et al. studies found that herpes infection (viral) and mycoplasma pneumonia infection (bacterial) were the most offending agents, while drugs were detected only in two cases [10,11].

Gergory DG made a research about the treatment guidelines for the acute ocular manifestations associated with Steven-Johnson syndrome, analysis showed that the main ocular findings were visual acuity, dry eye and scarring of the ocular surface and eye lid [10]. In relation six patients involved in the study had ocular manifestations including redness of the eye and swelling of the eye lid.

Investigators noticed that the most common associated symptom was found to be fever (10%) followed by difficulty with eating and burning sensation.

Authors recognized that most of the patients didn't take incisional biopsy only 17 did it.

Regarding management of erythema multiforme results showed that the treatment of choice in most of the cases were steroids (33.6%) followed by antibiotics (27.2%). In relation to other researches systemic steroids was the treatment of choice in almost all of the cases; for example Ferrandiz-Pulidoc, et al. found that 90% of the patients included in their investigation were treated by systemic steroids [11]. Likewise Yamane Y, et al. found that all of the cases involved in their research except for 3 were treated systemically with corticosteroids [12].

Conclusion

Erythema multiforme is one of the curcial hypersensitivity reactions. Findings showed that it affects mostly females with a mean age of 35 Years old. It was found that the E.M major was the most common type of this disease. The result showed that the oral lesion involvement was in more than two-third of the affected patients. Findings of this study indicated that steroids were the favorable choice for the treatment.

Recommendations

1. Viral screening test is an important step for the diagnosis of erythema multiforme because some adult patients may have HIV or Hep B,C.
2. Knowledge about the triggering factors should be provided so that people can be more caution.
3. Medical records at hospitals must be regularly double check patients files to minimize the missing data.
4. Patients should be aware about the dangers that can be caused by steroids.

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