International Journal of Advanced Biotechnology and Research (IJBR)
ISSN 0976-2612, Online ISSN 2278–599X,
Vol-9, Issue-1, 2018, pp1764-1769
http://www.bipublication.com

Research Article

Erythrasma: Causes, Treatment and Relation with Other Diseases

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ABSTRACT

Erythrasma is not a life threatening disease and has got the treatment. Two to four weeks are required for the patient to respond. Antibiotics, lotions, foams, solutions, ointments and creams are used for its treatment depending upon the severity of the infection and patient profile. In some cases, disease can reoccur. Recurrence can be controlled by patient management and diagnosing any associated disease. Furthermore, it happens in patients with a medical condition that affects your immune system. In general, Erythrasma does not restrict the ability to do routine tasks.

Keywords: Erythrasma, causes, treatment, relation, antibiotech, diseases.

INTRODUCTION:

Skin infections are common and can be divided into four major types - Bacterial, viral, fungal and parasitic infections. A skin infection caused by bacteria is known as “Erythrasma” in medical science today. The bacteria responsible for Erythrasma areCorynebacteriumminutissimum. The prevalence of the disease is common in hot and humid conditions and therefore it is more likely to prevail in skin folds. If not treated, Erythrasmainclines to be a long lasting skin disease.Erythrasma has two types - generalized and interdigital [1]. Interdigital infection occurs mostly in feet and generally has no symptoms. The other type of Erythrasma is associated with Diabetes mellitus type 2 and involves skin creases rubbing together. It is prevalent among diabetics and the obese, and in warm climates; it is worsened by wearing occlusive clothing[2].

The presence of erythrasma is approximately 4% and is seen in the subtropical and tropical areas compared to the rest of the world. It is found more commonly in people with darker skins irrelevant of the gender.It is more common in males for the thigh and leg regions.

Objective

The main focus of the study was to find out the symptoms of Erythrasma, its causes, treatment and to determine how it is interlinked with other diseases.Generally, Erhthrasma patients are from hot and humid environments. It istypically seen in tropical and subtropical areas. People of all age groups, especially old age adults are the common victims of the disease.

Methodology

Sampling and comparative techniques were utilized for the collection of the results. A total of 100 Erythrasma patients were selected from different clinics. Statistical data representation techniques for better analysis were employed. Medical history and case sheets of the patients were also consulted for better understanding. Results were also presented in tabulated and graphical manner.

DISCUSSION

Symptoms and Causes

Initially, Erythrasmapatients are seen with red or pink spots which may vary in size, and slightlyscratchy skin. The skin may become wrinkled in some adverse cases. The red or pink patches turn brown and rough afterwards.Most commonly, Erythrasma symptoms can be seen between skin foldsespecially in the groin area, armpits, or between the toes. When you have erythrasma between the toes, you may see cracks and scaly skin. Skin folds under the breasts, between the buttocks, or around the navel are more likely to be effected through Erythrasma.The infection is mostly caused due to bacteria which enters through a cut or break in the skin. It does not mean that one will get inevitably infected by a cut each time, but it does amplifythe risk if body immune system is weak.

Who is at Risk for Developing this Disease?

Ertyhrasma is more likely to develop in patients with diabetes [3].People who face recurring disease are recommended to be examined for Diabetes. Beside Diabetes, old age adults, overweight, resident of hot and humid conditions, people who sweat more, and athletes are prone to be at risk. Moreover, people with poor hygiene and weak immune system are also susceptible to this skin infection [4].

Diagnosis

Generally, doctors can diagnose the type of infection depending upon the presence and location of the infection. The diagnosis process includes Wood's lamp skin examination. In this lamp test, ultraviolet radiationsare used to examine the skin. Under this lamp, erythrasma will have a red or coral color. If lamp generates false results which are different from actual visual examination, skin biopsy techniques may be utilized to confirm the existence of disease. Skin biopsy involves scraping of affected skin tissue and then processing and thorough evaluation under a microscope.Erythrasma is commonly mistaken for mycotic infections. The prevalence of Erythrasma can be diagnosed using a Wood's lamp, which shows the "coral red" fluorescence. Wood's lamp may show false results due to the removal of bacteria-derived coproporphyrin III. To sort out the problem, ask the patient if he/she has had a bath within 12 hours before the visit. Avoid wiping Alcohol before the Wood's Lamp test [4, 5].If problem persists or the diagnosis is not clear, skin tissue can be removed, processed, and analysed with the help of a microscope.Erythrasma is often considered a microscopically "invisible dermatosis" as the skin may appear normal on routine tissue evaluation. Special stains such as periodic acid-Schiff (PAS) and Giemsa can aid in visualization [6]

Diagnosis confirmation

The dermatologist examines the area if it is rubbed between two skin layers. Examples include armpit, groin or any other skin creases. Irritant contact with the skin may cause scaling and cracks. Erythrasma patients are advised to maximumavoid irritant contact between the skin and outside agent. Often starts from pink and turn red. More common in obese patients. Patients who sweat more are prone to seborrheic dermatosis. It develops in hairy and oily part of the body. Some patients suffer from tinea versicolor - Brown or white spots and thin tiles involving mainly the front of the chest, neck, and back.Microbiologic examinations for appropriate antimicrobial therapy help in diagnosis [7].

Treatment

Oral and/or topical therapy is mostly used for the treatment of skin infections caused by bacteria. If Erythrasma gets chronic then arterial antibiotics are used under a doctor's supervision. The treatment for Erythrasma depends upon the condition and severity of the disease. The dermatologist has the choices as mentioned below;

Oral

- Antibiotics, such as erythromycin (Oral)
- Washing the affected skin with anti-bacterial soap
- Using fusidic acid to the skin. May be oral according to situation.

- Antibacterial solutions or creams , such as clindamycin HCL solution, erythromycin cream, or miconazole cream [8].

Physical

- Red light therapy

In this therapy, infected skin is exposed to a wavelength of red light which helps to reduce the infection.Treatment period may long for two to four weeks to work. Oral, Physical or both methods may be employed. Relevant creams and solutions are used first. If it does not work then oral antibiotics are added.Treating the hidden disease first helps in some cases especially in Diabetes patients. Combination of treatment is selected according to situation of the victim.The infections require a dry and clean environment to be cured. In this regard, home care for a skin infection is compulsory. It may include applying cold air to the infected skin to reduce itching and inflammation, using antihistamines, creams and ointments to reduce irritation and discomfort [9].

Complications

Erythrasma very rarely associated with complications.Occasionally, it turns into Septicemia- a serious blood infection caused by poisoning of bacteria. No life threat is associated with this disease. Some people come up with recurring Erythrasma. They recover from Erythrasma but develop it again. The reason could be an underlying disease, in most cases, Diabetes.Erythrasma patients with weak immune systems are likely to develop co-bacterial and fungal infections. Steps to strengthen the immune system are good to cure additional infections. Oral antibiotics can also help to improve the condition [10].

Preventions

The risk of Erythrasma can be minimized by;

- Keeping the skin dry and clean.
- Bathing regularly and dry the skin well after bath.
- Reducing the sweat, if possible.
- Wearing dry shoes.
- Wearingdry and clean costumes.
- Avoiding moist and warm areas [11].

Relation with other diseases

The treatment options are limited for comparison. Different topical and systemic therapies are helpful for the treatment of the skin infection. The choice of treatment rests with the doctor and utilized according tomagnitude of disease, permissibility, and cost of the treatment.

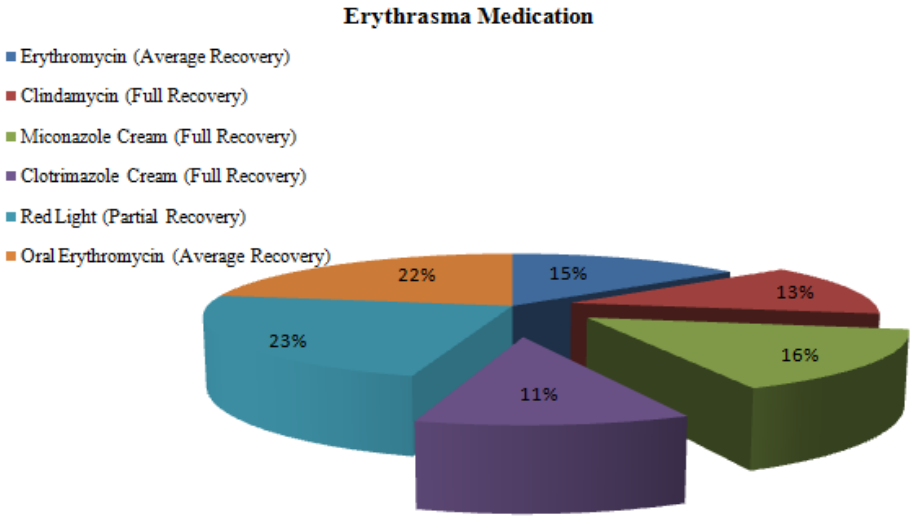
Associated Diseases	Percentage of Other Disease	Treatment	Topical Therapy	Recovery
Keratolysis	13 %	Erythromycin 250 mg 4 x 14 Days	No	Average recovery
Minor Erythrasma	12 %	Clindamycin 1g 2 x 7 Days	No	Full revoery
Fungal Infections	14 %	Miconazole Cream Twice Daily	Yes	Recovered
	10 %	Clotrimazole Cream Twice Daily	Yes	Recovered
Bacterial Porphyrins	21 %	Red Light (635 nm)	Yes	Partial Recovery
HIV	5 %	Oral Erythromycin	No	Partial recovery
Obesity	15 %	Oral Erythromycin	No	Average recovery
Diabetes	10%	Oral Erythromycin	No	Average recovery

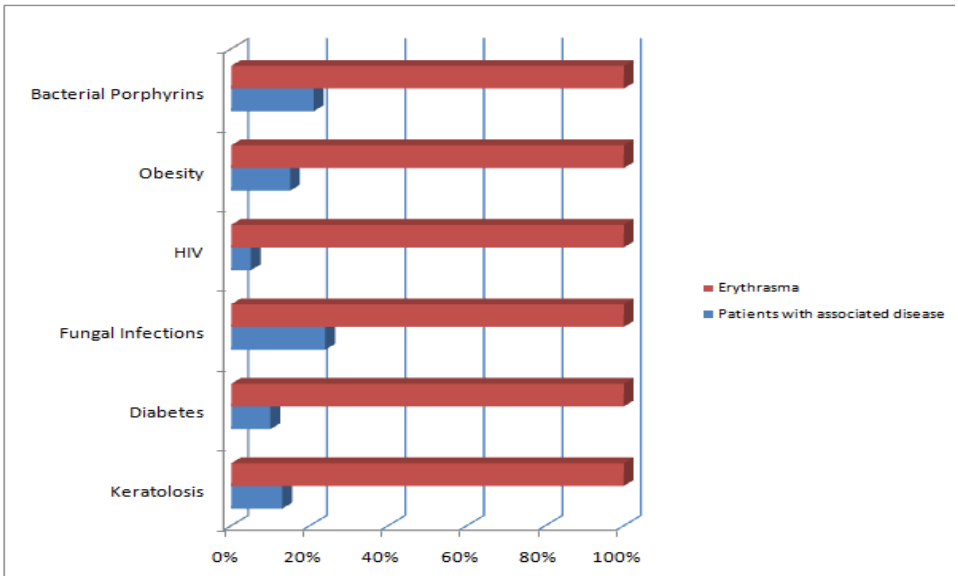
The study was carried out on a sample of 100 patients. 10 % patients were having an underlying Diabetes, 15 % were overweight, 5 % were suffering from HIV, 21 % were having bacterial porphyrins, 24 % cases were reported with additional fungal infections, 13 % were found with keratolosisalongwithErythrasma. 12 % were solely Erythrasma cases.

It is pertinent to highlight that, almost in all cases, patients have shown improvement whether partial

or final. Recurring cases were mostly associated with Diabetes. Fungal infections patients responded effectively to the treatment. Different topical and oral treatments given are also mentioned against each case. The data illustration is given here in graphical form.

Association with other diseases





MEDICAL THERAPY

A topical therapy is very effective keeping in view the low side effect of medication on the skin. The medication should be prescribed with patient tolerability and low risk of bacterial resistance. Generally, solutions and lotions are preferred over ointment and creams on the open skin but creams and ointments are a better choice if Erythrasma prevails in flexure creases of the skin.Clindamycin is highly effective in treating erythrasma. The skin shouls be washed with an antibacterial soap and applying Clindamycin can clear the infection very soon. Some other creams such as ketoconazole, miconazole, oxiconazole, and econazole have similar efficiency.Ketoconazole foam is available which is most tolerable to Erythrasma patients and can be prescribed where patches are seen on plain skin.Whitfield's ointment is another medicine for

Erythrasma with almost same efficacy.Side effect such as imitation has been reported for using this ointment.Use of fusidic acid has verified complete resolution of erythrasma. Fusidic acid, though, is not permitted in some countries [12].

Patient Management

Patients normally recover from Erythrasma in 2 to 4 weeks' time.Diagnosis should be clear. Utilize the Wood's Lamp test or skin biopsy (Microscopic evaluation), if needed.Erythrasma patients are often reported with recurrence cases. In order to avoid recurrence, Diabetes should be examined and treated accordingly. Moreover, advise the patients to minimize the bacterial growth by washing the skin with anti-bacterial soap or benzoyl peroxide gel/wash. Aluminum oxide may be prescribed if the patient sweats more. Overweight patients may be asked to reduce weight. The medicines work best with these preventions.Erythrasma in feet is often found between toes. Ask the patient to keep the feet dry especially after bathing. Wear dry shoes and change the socks/footwear daily if possible to avoid recurrence.Weak immune system can be a cause of recurrence of Erythrasma. Patients with poor hygiene should be advised to take care of the diet and improve their general health to avoid recurrence [13].

CONCLUSION

Erythrasmais not a life threatening disease and has got the treatment. Two to four weeks are required for the patient to respond. Antibiotics, lotions, foams, solutions, ointments and creams are used for its treatment depending upon the severity of the infection and patient profile. In some cases, disease can reoccur. Recurrence can be controlled by patient management and diagnosing any associated disease.Furthermore, it happens in patients with a medical condition that affects your immune system. In general, Erythrasmadoes not restrictthe ability to do routine tasks.

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