

Periorbital Cellulitis that Developed after Alternative Medication of *Hirudo Medicinalis* Application

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Received date: March 06, 2017; Accepted date: March 30, 2017; Published date: April 03, 2017

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Abstract

We aimed to present a case of periorbital (preseptal) cellulitis that developed after *Hirudo medicinalis* alternative medicine application for glaucoma treatment which can be rarely seen in routine ophthalmology practice. A 36 year old woman with a glaucoma was admitted to our outpatient clinic because of redness, pain and swelling around the right eye for three days and gave a history of leech application 1 week ago, that recommended by her relatives as a remedy for glaucoma. Orbital cellulitis was excluded and cure was achieved with oral ciprofloxacin and flurbiprofen treatment. Patients with chronic diseases such as glaucoma, they are abandoning the treatment over time, will seek solutions from alternative medicine. These inappropriate treatments without scientific evidence can cause various complications. Physicians should maintain proper communication with the patients inform them about their chronic diseases (e.g. glaucoma) to make them the part of the solution and treatments.

Keywords: Alternative medicine; *Hirudo medicinalis*; Complication; Leech; Cellulitis; Diagnosis

Introduction

We aimed to present the clinical features and treatment of periorbital cellulitis that developed after leech (*Hirudo medicinalis*) application which can be rarely seen in routine ophthalmology practice.

Case Report

A 36 year old woman with a known rheumatoid arthritis (RA) and glaucoma was admitted to our outpatient clinic because of redness pain and swelling around the right eye for three days. Her medical history was significant for RA and glaucoma for six years and she is treated with oral methylprednisolone 4 mg tablet 1*1, topical brimonidine tartrate droplet 2*1, brinzolamide droplet 2*1, timolol maleate+bimatoprost droplet 1*1. She also gave a history of leech application 1 week ago, that recommended by her relatives as a remedy for glaucoma (Figure 1).

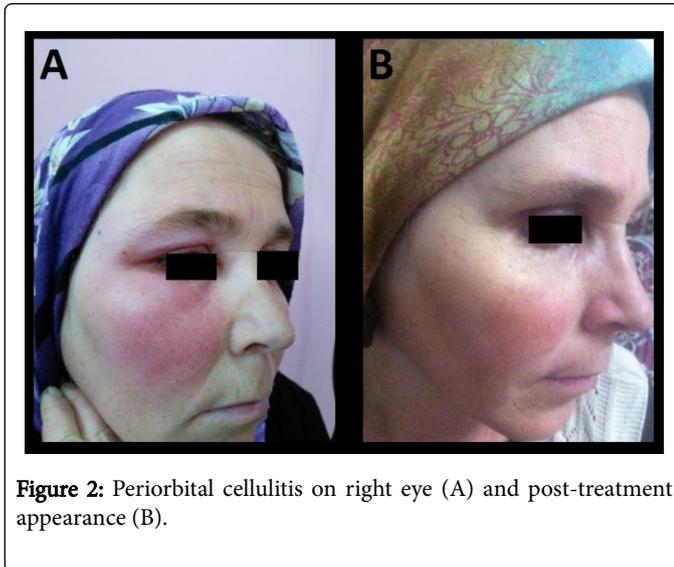
Physical examination findings were redness with raised temperature of the periocular skin and soft tissue, swelling involved the eyelids. Visual acuity was bilateral 20/20. There was no limitation of ocular motility for both eyes. Light reflexes, anterior-posterior segment, and fundus examinations were normal. Orbital cellulitis was excluded and the cure was achieved with 2-week oral ciprofloxacin 500 mg tablet 1*1 and flurbiprofene 100 mg tablet 1*1 treatments (Figure 2).



Figure 1: *Hirudo medicinalis*.

Discussion

Cellulitis is defined as inflammation of the skin and subcutaneous tissues usually from acute infection. Sign and symptoms are erythema,



[4]. Schnabl et al. recommend third generation cephalosporin's, tetracycline, fluoroquinolones or aminoglycosides for cases with established infections [9].

Conclusion

Patients with chronic diseases requiring long-term treatment and follow-up such as glaucoma, they are abandoning the treatment over time, don't come to the control visits, seek solutions from alternative medicine. These inappropriate treatments without scientific evidence can cause various complications. Therefore, physicians should maintain proper communication with the patients inform them about their diseases to make them the part of the solution.

Acknowledgement

The manuscript has no prior presentation or part of the work in a conference/seminar. This study has been recognized as a medical specialty thesis in ophthalmology. We declare that there is no financial support or relationships that may pose conflict of interest. Finally, there is no conflict of interest in connection with this submitted article, and the manuscript has been read and approved by all the authors.

References

1. Gunderson CG, Martinello RA (2012) A systematic review of bacteremias in cellulitis and erysipelas. J Infect 64: 148-155.
2. Bauters TG, Buyle FM, Verschraegen G, Vermis K, Vogelaers D, et al. (2007) Infection risk related to the use of medicinal leeches. Pharm World Sci 29: 122-125.
3. Wilmer A, Slater K, Yip J, Carr N, Grant J (2013) The role of leech water sampling in choice of prophylactic antibiotics in medical leech therapy. Microsurgery 33: 301-304.
4. Eroglu C, Hokelek M, Guneren E, Esen S, Pekbay A, et al. (2001) Bacterial Flora of *Hirudo medicinalis* and Their Antibiotic Sensitivities in the Middle Black Sea Region, Annals of Plastic Surgery 47: 70-73.
5. Karadag AS, Calka O, Akdeniz N, Cecen I (2011) A case of irritant contact dermatitis with leech. Cutan Ocul Toxicol 30: 234-235.
6. Avolio M, LaSpisa C, Moscariello F, De Rosa R, Camporese A (2009) *Aeromonas hydrophilia* ecthyma gangrenosum without bacteraemia in a diabetic man: the first case report in Italy. Infez Med 17: 184-187.
7. Whitlock MR, O'Hare PM, Sanders R, Morrow NC (1983) The medicinal leech and its use in plastic surgery: a possible cause for infection. Br J Plast Surg 36: 240-244.
8. Maetz B, Abbou R, Andreoletti JB, Bruant-Rodier C (2012) Infections following the application of leeches: two case reports and review of the literature. J Med Case Rep 6: 364.
9. Schnabl SM, Kunz C, Unglaub F, Polykandriotis E, Horch RE, et al. (2010) Acute postoperative infection with *Aeromonas hydrophila* after using medical leeches for treatment of venous congestion Arch Orthop Trauma Surg 130: 1323.

swelling, and warmth over the affected area, pain, and tenderness. Borders of the lesions are generally not sharp and systemic findings such as hypotension, fever chills suggest severe infection and potential complications [1].

Although the most common bacteria causing cellulitis are streptococci (especially *S. pyogenes*) and *S. aureus*, in the presence of leech (*Hirudo medicinalis*) application history; *Aeromonas* species, are a most common organism to be accused [2-4]. *Aeromonas* are found in leech gut flora. Leeches have a lack of enzymes for digestion of sucked erythrocytes but *Aeromonas* have them thus a symbiotic life form occurs [4,5].

Aeromonas are Gram-negative oxidase positive facultatively anaerobic motile rods. They are found primarily in fresh and brackish water. They can cause infections ranges from mild cellulitis to ecthyma gangrenosum and even sepsis in immunocompromised patients [6].

It was first reported by Whitlock et al. in 1983 that leech application to the body could be a risk for infection and this issue has been studied in many publications until today [7]. Nevertheless, our patient is the first report of periorbital cellulitis resulting from leech application.

Treatment for infectious complications of leech application is also discussed in reported cases [8]. Eroglu et al. show the antibiotic susceptibility of *Aeromonas* living in the bacterial flora of the leeches to ciprofloxacin, cefotaxime, ceftazidime, gentamicin and TMP/SMX