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Original Article

Clinical Spectrum of Herpes Simplex Keratitis in Patients Attending various Health Institutions in North India

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Abstract
Introduction: *Herpes simplex virus is responsible for numerous ocular diseases, the most common of which is herpetic stromal keratitis. The inflammatory response can lead to decreased corneal sensation, scarring, and blindness. So accurate diagnosis is necessary for proper treatment, in order to prevent serious consequences.*
Methodology: *This was a retrospective study documenting the clinical profile and outcome of herpetic keratitis treated in a hospital in North Indian State.*
Results: *An aggregate of 200 patients were determined to have herpetic keratitis. Most common presentation was dendritic ulcer, followed by stromal keratitis and geographical ulcer. Most frequent associated ocular lesion with keratitis was conjunctivitis followed by uveitis and lid involvement. Among 200 cases, 120 cases (60%) were males & 80 (40%) were females. Right eye was involved in 120 (60%) and left eye in 80 cases (40%). The age distribution and majority of Patients 72(36%) are in the age group of 30-40. Visual acuity was grossly reduced <or = 6/60 in majority of patients with stromal disease (93.8%) while majority of patients with epithelial disease (88.89%) had visual acuity > 6/60. 57 (63.3%) had complete resolution in ist week & rest 33(36.7%) took 2 weeks for complete resolution. 64.5% had complete resolution after treatment & only 5% had visually significant residual disease.*
Keywords: *cornea; herpes simplex virus; herpetic stromal keratitis.*

Introduction

Herpes simplex infection (HSV) is the most widely recognized infective reason and principle wellspring of corneal visual weakness in Created countries[1]. Primary malady normally occurs in early life, and may be asymptomatic, yet the real hazard lies in the contamination's ability to develop inertness in the neuronal ganglia, and in this way reactivate[2]. This reactivation is a safe wonders which can incite dynamic corneal damage, as rehashes may be extraordinary and genuine, in the end causing corneal scarring,

vascularisation, reducing and not withstanding puncturing[3]. Exactly when irreversible corneal damage occurs, watchful mediation is the primary sensible treatment decision. The central point which direct the seriousness of intermittent herpes are: safe reaction of the host, the viral strain, and treatment.(2) HSV is endemic in basically every human culture all through the world, from urban to remote local clans. People are the main characteristic stores for HSV and there are close affiliations perceived between HSV-1 strains and authentic human populations.(3) Provoke finding and appropriate treatment is vital in keeping the visual grimness of this disease. Thinking about this, we hope to report the customary clinical presentation and empowering components of herpetic keratitis, and its outcome in the masses found in North Indian States.

Material and Methods

This was a survey cross-sectional examination of patients decided clinically to have herpetic keratitis. Records of these patients were pursued electronically in the wake of gaining specialist's office approval. The examination was driven by the standards of the announcement of Helsinski. 200 patients presented inside this time portion. No looking at strategy was associated in the midst of this examination as each consecutive eye inside the joining criteria were selected. Measurement data accumulated included age, sexual introduction, proximity of other restorative afflictions and risk factors for disease [eg cornea damage, contact point of convergence wear, visual illnesses that required consistent topical corticosteroid application]. Showing complaints and presenting visual insight were noted. The zone of the stromal keratitis was accounted for by five zones: central, superonasal, superotemporal, inferonasal and inferotemporal. The corneal pathology was recorded as epithelial keratitis just, stromal keratitis or endothelitis/kerato uveitis. Closeness of diminished cornea sensation in regard to the following eye, and what's more related skin wounds incorporating the facial locale was moreover filed. Other data accumulated included treatment and perplexities of the disease. Data was dismembered in a PC using Genuine Package for Humanism [SPSS] version 22.0.

Results

An aggregate of 200 patients were determined to have herpetic keratitis. Table 1 Shows most common presentation was dendritic ulcer, followed by stromal keratitis and geographical ulcer. Table 2 showes the most frequent associated ocular lesion with keratitis was conjunctivitis followed lid involvement and uveitis. Table 3 shows that 120 cases (60%) were males & 80 (40%) were females. The Table 4 shows that right eye was involved in 120 (60%) and left eye in 80 cases (40%). Table 5 shows that 50.5% had experienced a similar eye disease in past. Table 6 shows the age distribution and majority of Patients 72(36%) arein the age group of 30-40. Table 7 shows that visual acuity was grossly reduced < or = 6/60 in majority of patients with stromal disease(93.6%) while majority of patients with epithelial disease (86.9%) had visual acuity > 6/60.Table 8 shows that 57 (63.3%) had complete resolution in ist week & rest 33(36.7%) took 2 weeks for complete resolution. Table 9 shows that 64.5% had complete resolution after treatment & only 5% had visually significant residual disease. Table 10 shows that maximum number of patients 92(46%) presented in the months of January-March while minimum number presented from July-September 28(14%).

Table 1-Distribution as per type of Keratitis

Type of Keratitis	Frequency	Percentage
Dendritic ulcer	123	61.5
Stromal keratitis	56	28
Geographic ulcer	21	10.5
total	200	100

Table 2-Distribution as per Associated Ocular Lesions

Associated Ocular Lesion	Frequency	Percentage
No associatedlesions	110	55
conjunctivitis	38	19
Lid vesicles	29	14.5
uveitis	23	11.5
total	200	100

Table 3 Sex-Wise Distribution of Patients

Type of Disease	Male		Female		Total
	n	%	n	%	
epithelial	82	68.3	56	70	138
stromal	38	31.7	24	30	62
total	120	100	80	100	200

Table 4: Distribution of Patients as per eye Involved

Type of Disease	Right Eye		Left Eye		Total
	n	%	n	%	
epithelial	81	67	57	71.25	138
stromal	39	33	23	28.75	62
total	120	100	80	100	200
	=0.095; P=0.75, P> 0.05 In Significant				

Table 5: Distribution of Patients as Per previous History of Herpetic Eye Disease

H/O Previous Herpetic Eye Disease	Frequency	Percentage
Present	101	50.5
Absent	99	49.5
Total	200	100

Table 6: Age-Wise Distribution

Age	Frequency	Percentage
10-20	9	4.5
21-30	36	18
31-40	72	36
41-50	45	22.50
51-60	28	14
>60	10	5
Total	200	100

Table 7 Distribution as Per visual Acuity in the Affected eye at Presentation

Visual Acuity	Epithelial Disease	Stromal Disease	Total
>OR = 6/60	120(86.9%)	4(6.4%)	124
< Or = 6/60	18(13.1%)	58(93.6%)	76
Total	138	62	200

Table 8: Distribution as per Response to Various Treatment modalities in Epithelial Disease (n=90)

Treatment	Resolution		Total
	Ist week	2nd week	
Topical antivirals	21	09	30
Mechanical debridement	09	21	30
Topical antivirals+ mechanical debridement	27	3	30
total	57	33	90

Table 9: Distribution as per final outcome of Treatment

Complete Resolution	Frequency	Percentage
BCVA > 6/12	130	65
Residual Scarring (BCVA< OR= 6/12,>OR =6/24)	60	30
Residual Scarring (BCVA < 6/24)	10	5
TOTAL	200	100

Table 10: Distribution as per Seasonal Variation

Season	Frequency	Percentage
Jan-March	92	46
April-June	33	16.5
July-September	28	14
October-December	47	23.5
Total	200	100

Discussion

keratitis is a conceivably blinding condition. It speaks to a critical worldwide weight of infection, as it requires different visits to the ophthalmo-logist, and is in charge of a huge loss of work and efficiency. Cornea scarring happening as a sequelae of the sickness is the fundamental driver of poor vision, and may require a mix of careful mediation, foundational antivirals and immunomodulation[4-6]. Patients with discouraged cell resistance, for example, diabetes mellitus, harm, and post organ transplant status are at higher danger of respective or serious HSV keratitis[7].

Liesegang TJ etal in 1980 were one of the first to extensively study the epidemiological character-istics of ocular herpes.(8) In our study of 200 patients, the presentation was dendritic ulcer in 123 patients, geographical ulcer in 21 & stromal keratitis in 56 patients. These proportions were similar to previous studies. Labetoulle M et al reported the presentation as dendritic keratitis (29.5%) & geographical keratitis (9.8%) Lisengang et al evaluated and found involvement of superficial cornea in 63%.Uchio E et al in their study reported the presentation as Epithelial Keratitis (57.3%) & stromal keratitis (39.3%)(10). In one review associate examination from Israel, herpetic eye malady was more typical in those with poor glycemic control, which may clarify the way that one-fifth of our patients had

diabetes[11]. Drawn out utilized of topical steroids for unfavorably susceptible conjunctivitis was likewise connected with HSV keratitis; in cell culture models, corticosteroids have been found to directly affect reactivation of inert virus[12]. Although immunosuppression is a conventional hazard factor for HSV contamination, it is imperative that our patients had no encouraging danger factors for the illness. In our investigation, just a single patient had HIV contamination, while two had endless utilization of topical steroids. Cornea injury was a relationship in 13.6% of cases, or, in other words another investigation in India[13]. The age profile of HSV keratitis in our patients resembles from that of Darouger et al.;[1], which found that essential HSV visual contamination has a tendency to happen in a more youthful age gathering, with a mean of 25 years and contradicts with that of Raju et al in India, which observed 40-50 years to be the commonest age for a first introduction of HSV keratitis[14].. Strikingly, we found that a large portion of the eyes in our examination had focal association of keratitis, which may clarify why obscuring of vision, was one of the primary exhibiting indications, not at all like in the investigation by Darougar et al.;[1]. In spite of that, the dominant part had generally great vision on introduction, which proposes that albeit emotional, even gentle obscuring of vision might be a delicate pointer of vision-debilitating pathology. The principle corneal layer included was the epithelium, with the dominant part of eyes having epithelial keratitis, as in the examination by Darouger et al.;[1]. In our examination, a good number of eye had stromal keratitis, In the present investigation, around half of the eyes had change in visual keenness post-treatment. This is likely because of the way that numerous eyes had epithelial keratitis, which tends to determine without sequelae. Quality of this examination is that it uncovers the clinical profile of patients with herpetic keratitis exhibiting to a tertiary healing center in a tropical nation. It might subsequently be valuable to contrast these discoveries and the examination performed in Field fields Eye Healing center, London, as there might be variety in the clinical profile of herpetic keratitis in a mild nation.

Conclusion

The clinical analysis of herpes simplex keratitis might challenge, particularly amid the early introduction. Therefore, understanding the clinical introduction of this infection and acknowledgment of unobtrusive side effects and signs, together with keeping up a high file of doubt can aid incite finding and treatment of this conceivably outwardly crippling condition.

References

1. Darougar S, Wishart MS, Viswalingam ND; Epidemiological and clinical features of primary herpes simplex virus ocular infection. Br J Ophthalmol. 1985; 69 (1):2-6.
2. Rolinski J, Hus I; Immunological aspects of acute and recurrent herpes simplex keratitis. J Immunol Res. 2014; 2014:513560.
3. Kaufman HE, Azcuy AM, Varnell ED, Sloop GD, Thompson HW, Hill JM; HSV-1 DNA in tears and saliva of normal adults. Invest Ophthalmol Vis Sci. 2005; 46 (1):241-7.
4. Suveges I, Fust A, Imre L; Postoperative therapy after penetrating keratoplasty in herpes simplex keratitis. ORV Hetil.2013; 154 (52):2065-70.
5. Zarei-Ghanavati S, Alizadeh R, Yoo SH; Herpes Simplex Virus Endotheliitis following Descemet's Membrane Endothelial Keratoplasty. J Ophthalmic Vis Res. 2015;10 (2):184-6
6. Yin D, Huang A, Warrow D, Ritterband DC, Seedor JA, McCormick SA, et al.; Detection of herpes simplex virus type 1 in failed descemet stripping automated endothelial keratoplasty grafts. Cornea. 2013; 32 (9):1189-92.

7. Perng GC, Osorio N, Jiang X, Geertsema R, Hsiang C, Brown D, et al.; Large Amounts of Reactivated Virus in Tears Precedes Recurrent Herpes Stromal Keratitis in Stressed Rabbits Latently Infected with Herpes Simplex Virus. Curr Eye Res. 2016; 41 (3):284-91.
8. Liesegang TJ; Herpes simplex virus epidemiology and ocular importance. Cornea. 2001; 20 (1):1-13.
9. Labetoulle M, Auquier P, Conrad H, et al. Incidence of herpes simplex virus keratitis in France. Ophthalmology. 2005;112:888–895. [PubMed]
10. Uchio E, Hatano H, Mitsui K, et al. A retrospective study of herpes simplex keratitis over the last 30 years. Jpn J Ophthalmol. 1994;38:196–201. [PubMed]
11. Kaiser man I, Kaiserman N, Nakar S, Vinker S; Herpetic eye disease in diabetic patients. Ophthalmology. 2005; 112 (12):2184-8.
12. Du T, Zhou G, Roizman B; Induction of apoptosis accelerates reactivation of latent HSV-1 in ganglionic organ cultures and replication in cell cultures. ProcNatlAcadSci U S A.2012; 109 (36):14616-21.
13. Souza PM, Holland EJ, Huang AJ; Bilateral herpetic keratoconjunctivitis. Ophthalmology. 2003; 110 (3):493-6.
14. Raju KV, Jyoti, P.T., Shimna I; Clinical Profile of Herpes Simplex Keratitis. Kerala J Ophthalmol. 2001;1 ([33):7.