
RECONSTRUCTIVE SURGERY OF LEPROSY PATIENTS

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Abstract

Background

Leprosy also known as Hansen's disease since long. The causative organism is an acid-fast bacillus known as Mycobacterium Leprae that has affinity to involve, infect and destroy peripheral nerves, those of limbs

Purpose

To analyze the pattern (number and type) of leprosy reconstructive surgery conducted at Leprosy Home and Hospital, Cuttack in last 11 years.

Method

This is a retrospective study conducted at Leprosy Home and Hospital, Cuttack, Odisha. This was conducted by observing hospital records between October 2006 to September 2017. This study was conducted with regard to total number of reconstructive surgery and its year wise distribution, gender wise distribution and procedure conducted in last 11 years

Result

From hospital record we observed that total 878 cases undergone leprosy reconstructive surgery from October 2006 to September 2017 out of these 650 are males and 213 are females, male child consists of 8 cases and female child consists of 7 cases

Conclusion

Our study observed that male is more common than female. In leprosy Hand cases are more common deformity than female followed by eye case.

Keywords:

Leprosy reconstructive surgery, Hansen's Disease, Mycobacterium Leprae, Acid-fast bacillus.

Introduction

Leprosy also known as Hansen's disease since long. The causative organism is an acid-fast bacillus known as Mycobacterium Leprae that has affinity to involve, infect and destroy peripheral nerves, those of limbs. In the initial stage nerves are thickened, tender and painful, but have no loss of function. In the final stage there is damage and loss of sweating and sensibility, muscle weakness or complete paralysis. Leprosy involves dermal nerves, cutaneous nerves [3] and major nerve trunk in the peripheral nerve and ulnar, median and occasionally radial nerve of upper extremity and common peroneal and posterior tibial nerve involvement in the lower extremity.

Different nerve involvement gives different disability:

- Ulnar nerve damage: Claw finger deformity
- Median nerve damage: Claw finger and claw thumb deformity
- Radial nerve damage: Wrist drop
- Common peroneal paralysis: Foot drop
- Posterior tibial nerve: Claw toe

WHO classified disability due to nerve involvement into three grades [4]

- **GRADE -0:**The nerves are thickened/tender but has no motor or sensory deficit.
- **GRADE-1:**Loss of sweating and sensibility but no visible deformity
- **GRADE-2:** Visible deformity of hand feet and face

Aim of study

To analyze the pattern (number and type) of leprosy reconstructive surgery conducted at Leprosy Home and Hospital, Cuttack in last 11 years and to study the total number of reconstructive surgery and its year wise distribution, gender wise distribution and procedure conducted in last 11 years

Materials and methods

This study was performed in at Leprosy Home and Hospital, Cuttack, Odisha, an eastern state in India. This hospital is a recognize center for leprosy reconstructive surgery as declared by govt of India. This is an old hospital, visited twice by father of the nation Mahatma Gandhi. Patients having age less than 14 years were considered as child and patients having age more than 14 years were treated as adults and their year wise distribution were studied. Reconstructive surgery under headings of hand(claw correction,opponens-plasty, thumb deformity, wrist drop, revision surgery, Nerve abscess drainage),foot(Foot drop, claw toe), eye (lagophthalmous) and otherswere studied. The exclusion criteria are leprosy patients only presented with ulcers without any other deformities.

Results

**YEAR WISE CUMMULATIVE REPORT OF RE-CONSTRUCTIVE SURGERY
LEPROSY HOME AND HOSPITAL, CUTTACK, ODISHA**

Year Wise	Hand	Foot	Eye	Other	Total	Male	Female	Male Child	female Child	Total
October 2006 to March 2007	23	11	4	0	38	24	14	0	0	38
April 2007 to March 2008	37	16	2	0	55	35	20	0	0	55
April 2008 to March 2009	61	35	6	0	102	74	28	0	0	102
April 2009 to March 2010	60	30	7	0	97	73	23	1	0	97
April 2010 to March 2011	51	20	2	0	73	52	17	4	0	73
April 2011 to March 2012	52	20	4	0	76	59	16	1	0	76
April 2012 to March 2013	53	22	2	0	77	62	15	0	0	77
April 2013 to March 2014	55	24	3	0	82	65	16	1	0	82
April 2014 to March 2015	45	32	6	0	83	66	16	0	1	83
April 2015 to March 2016	66	20	0	0	86	64	19	0	3	86
April 2016 to March 2017	51	25	5	1	82	58	20	1	3	82
April 2017 to September 2017	7	15	1	4	27	18	9			27
Total	561	270	42	5	878	650	213	8	7	878

From hospital record we observed that total 878 cases undergone leprosy reconstructive surgery from October 2006 to September 2017 out of these 650 are males and 213 are females, male child consists of 8 cases and female child consists of 7 cases. Male consists of 79.9% and female is 25.1%. Total no of children is 15 in number which is 1.8% of the total distribution.

Out of 878 total number of surgery, 561 cases are hand cases which are 63.9% of all the reconstructive procedure. Among the hand cases claw correction is most commonly performed surgery followed by opponens-plasty followed by thumb deformity correction, wrist drop and revision surgery are rarer reconstructive surgery. 270 patients undergone foot surgeries which is 30.7% of total reconstructive surgery in last 11 years. Among foot patients foot drop consists of more number of cases than claw toe. 42 patients (4.8 %) undergone eye surgeries for lagophthalmus and patient donot have claw deformities undergone Palmaris longus tendon transfer and patient having claw hand deformities undergone Tensor Fascia Lata transfer to Temporalis muscle.

Other surgeries like skin grafting, flap surgeries and contracture release is consists of 5 number of cases (0.6%). From October 2006 to March 2007 total 38 cases, from April 2007 to March 2008 total 55 cases, From April 2008 to March 2009 total 102 cases, From April 2009 to March 2010 total 97 cases, from April 2010 to March 2011 total 73 cases from April 2011 to March 2012 total 76 cases, from April 2012 to March 2013 total 77 cases, from April 2013 to March 2014 total 82 cases, from April 2014 to March 2015 total 83 cases, from April 2015 to March 2016 total 86 cases, from April 2016 to March 2017 total 82 cases, from April 2017 to September 2016 total 27 cases were undergone reconstructive surgery.

Discussion

An article published in Leprosy Rev 1990 Jun 61 [2]:171-9 author Iyerebb studied the pattern of patients in Nigeria observed that with the exception of eye deformities, males accounted for a higher proportion of all deformities. Hand deformities were the most frequent of the three parts of the body studied. Our study having similar view shown that Male consists of 79.9% and female is 25.1%. In our study also having hand cases (63.9%) are most common cases followed by foot cases. A study published in Trop Doct. 2011 Jan;41[1]:51-3 by author Ramos JM and Reyes F in their publication Disability profile in leprosy patients' diagnoses in a rural reference leprosy center in Ethiopia during 1999-2009 stated that out of 210 registered cases, One hundred and twenty-eight (61.5%) had disabilities (26.0% grade 1 and 35.6% grade 2): 13.5% ocular disabilities, 44.5% disabilities in hands and 44.7% foot impairment. Our study shown that foot impairment is 30.7% and hand impairment is more(60.9%) but eye impairment is less (4.8%).

Conclusion

Our study observed that male is more common than female. In leprosy Hand cases are more common deformity than female followed by eye cases. In last 5 years number of leprosy deformity registering tour hospital is nearly same.

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Conflicts of interests

None

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