

Experience of Orthopaedic Camp in Mobile Surgical Unit (Life Line Express) in central part of India

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Abstract:

We are presenting our experience of organization orthopaedic camp in rural part of India in mobile surgical unit (Life line express). We held camp for nearly for 15 days when we did deformity correction surgeries; corrective plaster cast and follow up for next 6 month. We have assessed pros and cons of orthopaedic camp on large magnitude at mobile surgical unit where major and supra major surgeries were done.

Key words: Orthopaedic Camp, life line express, mobile surgical unit

Introduction

French surgeon Nicholas Andery in 1741 coined the term "ORTHOPAEDICS" meaning straight child, thus orthopaedics has root firmly embedded in art and science of preventing and correcting deformity. In India most of the population lives in rural areas, so most of the disabled and crippled persons are unable to reach out the tertiary health centre for corrective surgeries and other aids. Without corrective surgery, these children are condemned to a lifetime of isolation and suffering. Taunted and tormented for their disfigurement, they cannot attend school, hold a regular job or get married. Many are even abandoned or killed at birth.

Departments of Orthopaedics across the country are already over burdened with trauma patients. Physically challenged people are therefore neglected and do not get the priority for surgery. Being poor they cannot seek corrective surgery in private hospitals. Camps are therefore required for correcting deformities in physically challenged people.

On 16th July 1991 the dream came true for neglected people when IMPACT INDIA established the 1st hospital on wheels in the world in the form of LIFELINE EXPRESS¹. This project has been developed in collaboration with Indian railway and health ministry. Lifeline express was arrived at railway station Jabalpur ; as shown in fig3 to held up the camp in various faculty such as ENT, Ophthalmology, Dentistry, Surgery, Plastic surgery, Orthopaedics. In lifeline express the orthopaedically

disabled were operated from 25th may to 10th June.

We had held the Assessment Camp in which we had run the O.P.D. in Regional Spinal Injury Centre. At that time patients were thoroughly checked and assessment was done whether their deformity could be correctable at the camp, after assessment, patients were called to admit in Regional Spinal Injury Centre Jabalpur. At the end of the day, list of surgically fit patients was prepared and consultant from Dept of Orthopaedics and Regional Spinal Injury Centre checked the patients. Deformity and power in the limb were assessed and treatment options were discussed. This discussion was useful for post graduate students. O.T. list was then finalised. These patients were prepared in the form of body part preparation, written well informed consent, inj tetanus, xylocain sensitivity. Each patient was labelled with sticker which consists of patient's name, date of operation and number. Their preoperative photographs were taken. These patients were carried to Lifeline Express

211 orthopaedically handicapped patients were operated in Life Line Express from 25th May to 10th June by surgeons of Dept. of Orthopaedics Medical College Jabalpur and Regional Spinal Injury Centre. Some orthopaedic surgeons from private sector also operated on the patients. At any time three operating tables were running as shown in fig (1). Every day we started operations at 9:00 a.m. Every day operations went on till 6:00p.m. Table (1) shows number of patients operated in one day. On an average, we had operated upon about 14 patients per days. Table (2) shows numbers and various types of surgeries that we had operated. Total number of procedures done in life line express from 25th May 2009 to 10th June 2009 was a staggering – 402 shown in table no3. We had also managed follow up camps at medical college Jabalpur and Regional spine injury centre Jabalpur. Patients were followed as per post operative plans by our consultants as shown in fig4.

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DATE	SURGERY DONE	CORRECTIVE PLASTER CAST	TOTAL
25-May-09	11	1	12
26-May-09	14	-	14
27-May-09	14	-	14
28-May-09	15	1	16
29-May-09	13	-	13
30-May-09	10	-	10
31-May-09	11	-	11
1-Jun-09	12	-	12
2-Jun-09	10	1	11
3-Jun-09	11	-	11
4-Jun-09	13	-	13
5-Jun-09	11	-	11
6-Jun-09	15	-	15
7-Jun-09	9	-	9
8-Jun-09	10	-	10
9-Jun-09	14	-	14
10-Jun-09	12	3	15
Total	205	6	211

Table1: Date wise statistical data of operations

Discussion

The goal of every medical mission is to fulfil a child's greatest wish: THE CHANCE TO BE NORMAL. Their unique and successful medical mission model is the foundation for providing safe surgeries for children around the world and building a long-term sustainable solution. Every year 35,000 children in India are born with clefts – a gap in the upper lip and/or palate. Though completely treatable, less than half get the treatment they desperately need – only because they are too poor. Without corrective surgery, these children are condemned to a lifetime of isolation and suffering. Department of orthopaedic Jaipur has mobile surgical unit. They are conducting for physically challenged people. They are doing various surgeries such as PMSTR, muscle release, tendon transfer, osteotomies for polio corrective operations, Osteotomies for varus, valgus and recurvatum deformities of knee, Z-plasty for flexion contractures of finger, Excision of accessory fingers in polydactyl, Slab or caste application for acute fracture cases, Excision of ganglion.

It is a frequently asked question that in the present circumstances whether MSU is required or not. Some people think that nowadays medical facilities are so improved that utility of MSU is doubtful. Such views show their ignorance about ground realities in countryside area. Only attending a camp of MSU can answer their question. In every camp of MSU a huge number of patients comes to the camp irrespective of the place, some of the camps are organized over district headquarters or tehsils where medical facilities are said to be good even on these places a

Type of Deformity	No. of Patients
CTEV	28
Post traumatic and Burn Contracture	24
CP Fixed flexion deformity of the knee	8
PPRP fixed flexion deformity	12
Pes Planus	4
PPRP Calcaneovalgus deformity	2
PPRPP Equinovarus deformity	23
CP Equinus deformity	15
PPRP Equinus deformity	10
CP equino cavus deformity	20
Arthrolysis of elbow	2
Cerebral palsy with tight adductors	19
Lipoma	1
Cerebral Palsy Equino varus	4
Duchene muscular dystrophy	5
Congenital Torticollis	2
Super mummery Digits	6
Syndactyl	6
Haem arthrosis	1
Metacarpo – phalangeal joint dislocation	2
Cubitus varus	2
Metacarpo – phalangeal joint dislocation	2
Congenital Deformity of great toe	1
Genu recurvatum	1
Old intertrochanteric fracture	1
Bilateral Genu valgum	2
Tendoachillis Rupture	1
Congenital Quadriceps Contracture (B/L)	1
Non union fracture medial malleoli	1
Old lateral condyle fracture of humerus	1
Total	211

Table2: showing number of various deformities that we had treated.
C.P: cerebral palsy, PPRP : post polio residual paralysis
CTEV: Congenital Talipes equino varus

lot of patients come to the camp and benefited, this shows the trust people have in MSU. Moreover a totally free and smooth service of MSU attracts patients naturally.

Dr Rahul Khare, Dr AK Agarwal, Dr Ratnesh Kumar, (2004) studied Twenty two surgical polio camps were organized in 8 districts of Uttar Pradesh and Madhya Pradesh from January 2000 to May 2006. Over 8000 children were screened, and three groups were made for physiotherapy, calipers and those who needed surgical correction for their deformities. 3370 patients were advised physiotherapy, 2920 were given calipers while 1250 patients were operated. By and large bony operations were avoided. 96 % of cases had full correction of deformities and only 4 % of cases needed further physiotherapy before fitting of orthoses. Such rehabilitative surgical polio camps offer a ray of hope for these illiterate, ignorant and unfortunate patients to lead

TYPES OF PROCEDURES	NUMBER
PMSTR	31
TRIPLE FUSION	38
CONTRACURE RELAESE	32
SUPRACONDYALAR OSTEOTOMY	24
YOUNTS RELAESE	10
SOUTERS RELAESE	16
JAPA'S PROCEDURE	18
BIL. PATELLECTOMY WITH QUADRICEPS V-Y PLASTY	1
MUSCLE BIOPSY	5
TENDO ACHILLIS REPAIR	1
RELAESEOF CONGENITAL TORTICOLLIS	2
EXICION OF SUPER NUMMERY DIGITS	10
RELEASE OF SYNDACTYLY	8
EXCISION OF OF LIPOMA	1
DWYER'S OSTEOTOMY	4
K WIRE FIXATION OF NONUNION OF MEDIAL MALLEOLI FRACTURE	1
HAMSTRING RELAESE	1
EGGERS PROCEDURE	2
CONTREURE RELEASE	25
SPLIT SKIN GRAFT	12
TENDOACHILLIS LENGTHNING OPEN	28
TENDOACHILLIS LENGTHNING PERCUTANEOUS	22
STEINDLER'S PROCEDURES	16
TENDON TRNSFER	3
LAMBRUNIDIS PROCEDURE	3
CAMPBELL'S POSTERIOR BLOCK PROCEDURE	1
FRENCH OSTEOTOMY	2
SUBTALAR FUSION	4
BHATTACHARAYA'S PROCEDURE	2
PERONEAL TENDON REROUTING	2
OPEN REDUCTION OF DISLOCATION OF MTP JT	2
PERCUTANEOUS PLANTAR FASCIOTOMY	16
ADDUCTOR TENOTOMY WITH OBTURAROR NEURECTOMY	25
ROBERT JONES PROCEDURE	19
ASPIRATION OF HAEMAERTOSIS OF KNEE	1
MAXPAGE OPERATION	1
FIXATION OF UNUNITED FRACTURE OF LATERAL CONDYLE OF HUMERUS	1
TOTAL	402

Table3: procedures done on our camp patients.

an independent respectable life.

Publicity plays a major role in the success of the camp so they advise organizers and government machinery of the area to reach even remote places but the most important thing is that over publicity is also as dangerous as lack of publicity. This means that with excessive and unwise publicity people think that every condition will be treated in the camps. It is seen that patients of valve replacements cardiac surgeries, tumors also come

ignorantly but as these surgeries are possible only at big centers they are not admitted hence they feel disappointed.

Observation

To conduct the operative camp of large magnitude in mobile surgical unit requires proper planning for the venue for the operations, follow ups. . In the beginning of the camp, we had organised the pre assessment camp during which the patients were examined. They were called on the camp dates. During camp dates patient were admitted, they were registered. These patients were kept in pre operative wards.

As train had come to Jabalpur this time ,which is divisional headquarter ,where medical college ,Regional Spinal Injury Centre, intensive care unit, blood banks are available ,we are able to do major and supramajor surgeries. While train was at Jabalpur we had full back from district administration.

Lifeline Express has the facility of running three operating table at a time. We had made full use of this opportunity. Lifeline Express has its permanent staffers such as the cook, technician incharge maintaining pathology lab, computers, an operating theatre assistant and a driver.

Lifeline Express has its own sterilization system in the form of autoclave .Sterilization standards of the train are excellent, very few of our cases got post operative infection. Operative camp of such magnitude requires good infrastructure. To hold such camp, one should have back up of tertiary health centre which we had got in the form of Medical College, Jabalpur.

Consultant from our dept and Regional Spinal Injury Centre assessed the patients. They had examined the patients thoroughly, their deformity was assessed, and power in the limb was checked. This really helped post graduates to learn deformities and their management.



Figure 1 : Three operating tables running at a time



Figure 2 : correction plaster cast after surgery

Night before the operation, these patients were labelled with tag containing patient's name, date of operation, side of deformity. Major camps deals with problems of wrong identification of patients, wrong side, wrong procedure, wrong casting, wrong follow-up. We had paid special attention to this problem. We ensured identification of each patient preoperatively. Patients were given an identification tags before being transported to the train for surgery and double checks were done in the OT.

As day progresses sterilization status of the O.T. will not be maintained. So that major surgeries should be done on priority at the start of each day. So that the infection rate in these case will be minimized. We found that instruments in Lifeline Express are excellent. We had found minimal hesitation while operating the patients. Lifeline Express has its own sterilization system in the form of autoclave. Sterilization standards of the train are excellent, very few of our cases got post operative infection.

We could not find the documentary evidence of follow up of operative camp. We not only carried out camp successfully but we had followed the cases in systematic manner over period of six month. Some cases of supra major surgeries are followed till now. And we are getting good results.



Figure 3 : Lifeline express

Conclusion

"The rural poor people in India often slip through the gaps in the public health system," Lifeline Express is like a magic train to them and fills that gap. The mission of Lifeline Express is to vanquish avoidable blindness, deafness and physical handicaps. Perhaps the greatest advantage Lifeline Express has over other health services for the poor is its ability to reach "the doorstep of the patient".

Physically disabled is considered to be teacher of Orthopaedics. They teaches Orthopaedic surgeons about careful examination, muscle charting, gait evaluation soft tissue handling and much more .Primarily it teaches us to carefully observe and think about the patient and effects of treatment.

Adequate training is not available for young surgeons to understand and tackle the problem effectively. The camps may play important role in such problem, in which adequate training in correcting deformities can be given to young surgeons and load of physically disabled patients



Figure 4 : follow up of camp patients.

can be reduced in project wise manner.

Surgeons comes from nearby places also to attend camps when such surgeons get opportunity to work with mobile team and with some experienced surgeons from medical colleges who also attend these camps regularly they take it as great opportunity to improve their skills.

To improve functioning of mobile surgical unit better instrumentation and latest techniques should be introduced. In addition, there should be a strong back up from nearby teaching institution for necessary investigations, which cannot be done in the camps. There should be a proper publicity to avoid dissatisfaction to this poor community of patients which even cannot afford.

To conduct the successful operative camp, it requires proper planning and assessment camp. Preoperative assessment is must to avoid the complication like residual deformity and faulty procedures. Tertiary health system back up is necessary to conduct operative camp in mobile surgical unit and it can be a follow up centre where complication like infection can be taken care of. Preferably those surgeons operating at camp should do the follow up. One operating team of the surgeons should be posted for the follow up. Camp of this magnitude requires good infrastructure like in patients' wards, dressing room, plaster room, operating theatre.

Poor and needy people get an opportunity to have

the tertiary health care by conducting follow up in tertiary centre. But this could happen when mobile surgical unit is conducting camp near to tertiary health centre. There are still hundreds of polio-affected children in need of surgical correction of their deformities so as to stand on their own feet. Such orthopaedic deformity correction camps offer a ray of hope for these illiterate, ignorant, unfortunate patients to lead an independent respectable life. Department of Orthopaedics across the country is already over burdened with trauma patients. Physically challenged people are neglected and do not get priority for surgery. Being poor they cannot seek corrective surgery in private hospitals. Camps in mobile surgical unit are therefore required for correcting deformities in physically challenged people.

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