Surgical Aspect Of Family Planning (Males)

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INTRODUCTION :

Nepal is a landlocked country, situated in the lap of Himalayas in the Indian Ocean region. Geographically, the country is divided into three main zones, viz. Terai (bordering India), hills and mountains (bordering China). The most of the inner Terai region which was not available in the past for habitation, has been thickly populated by the immigrants from the hills and the South, following irradiation of Malaria from the area. This area has great economic importance for the forest and agriculture products. The hill belt with an elevation between 61 to 274 meters above sea level, is considerably populated taxing upon the available agriculture resources. The mountain (with highest peak in the world - Mount Everest - 8840 Meters) has scarce area for human occupancy, because of extreme climate. The hill and the mountain covers about 2/3rd of the country's area (total area 1,39,900 Sq. Km.) 60% of the population but has less than 1/3rd of the total cultivable area.

The population of Nepal has nearly doubled from 1930 to 1972. According to the 1952-1954 census the population of the country in 1952 was 8.5 millions in the year 1961 it had increased to 9.4 millions, and in the year 1972 had gone upto 11.6 millions. According to the central Bureau of statistics (1972), the birth rate is 40 per 1000, the death rate is 20 per 1000, and annual growth is 2.07%; hence the population will double in 33 years. With the reduction in infant mortality, eradication of communicable diseases, the death rate has been reduced still further, and the annual

doubling of population in shorter period. On
income in only \$80/- per year. The rate of
only 2.7%. Hence in order to bring an equilibrium

economic growth of the country, the Government
The aim of the family planning programme is the
after opportunity for each person to attain individual
restricting birth rate.

in Nepal is run by two Organisations, The Family
formed in 1959. In the year 1965, His Majesty's
nd Meternal and Child Health project. In 1965, the
work in joint collaboration with the H.M.G. and
family planning and M.C.H. project is to offer family
couple, between 15 to 45 years, by establishing
throughout the country during the National Fourth
July 1975) In the fifty 5 year plan (1975-80).
services to additional 5,50,000 married couple

by establishing about 700 clinics all over the country. The aim is to educate people of reproductive age, the methods of controlling live birth by the use of pills, condoms, vasectomy, ligation, abortion etc. Besides birth control services the F. P. and M. C. H. project are considering to help the sterile women and impotent men. The number of cases coming for recanalisation of vas is increasing every year. A marriage council has been established to educate and advise young married couples.

The family planning was known to the people even in ancient days. The people had to plan their family to get food. In those days men used to control the number of their family by crude methods like infanticides and abortion. With the time, the older order has changed giving place to cheap, easier and humanly methods of family planning. Our statistics has shown that by mid 1974, over 287 thousand pairs have accepted family planning. Out of total acceptor, 33.2% use pills, 3.5% use IUD, 53.7% use condoms, 9.6% were sterilised. The condoms, pills, vasectomy and tube ligation are getting very popular.

The Pills, Condoms, Jelly used for family planning have the following disadvantages :-

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- a) The methods is not properly understood or applied.
 - b) Lack of privacy in our homes,
 - c) Non-availability of condoms, pills or jelly in all parts of the country.
 - d) Carelessness in the part of the users.
 - e) Pills are costly for the general mass and may not suit,
 - f) IUD carries lot of complications.
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Hence, we recommend surgical procedure, which is the safest and the best method of stopping reproduction. However, it must be very clear that the procedures are permanent ones and the results of recanalisation of vas cannot be guaranteed at present stages of work. These procedures are, therefore, recommended for the couple who has sufficient number of children and that they don't want any more.

While the reduction in birth rate is beneficial, illegal abortions are a particular threat to the health of the mother. Induced abortion under strict medical supervision is quite safe. Our law allows induced abortion only when the maternal saving is essential. In the absence of law, a woman who is determined to end the pregnancy must turn to an illegal source for help, endangering her precious life.

Many thanks to our judiciary body who is considering this issue of legalising abortion very seriously.

The following surgical procedures are available for planning the family :-

1. Vasectomy,
 2. Tubectomy -
 - a) By Laparotomy,
 - b) By Laparoscopy,
 - c) Through vaginal route,
 3. Reunion of vas deferens, vasoepididymostomy,
 4. Salpingoplasty,
 5. Abortion,
 6. Artificial insemination.
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VASECTOMY :- The vasectomy has been the single most popular methods of family planning performed all over the world. Dr. Davis estimates about 4 million vasectomies are performed every year preventing 2 million unwanted babies. In our country, the vasectomy has been most popular. The other workers in the field of family planning (Male sterilisation) in Nepal viz. Dr. D.N. Gongol, Dr. A. Hai Khan, Dr. Moin Shah and Dr. J.R. Pandey, have concluded that vasectomy is the popular method of restricted reproduction. People accept vasectomy once they have 4 or 5 children. People come for the operation on suggestion from friends (39.5%), medical officers (30.9%), Panchayat (10.6%) and on hearing from radio, newspapers, and looking at the playcards. The vasectomy camps are organised by Family Planning Association and Family Planning and M.C.H. Projects in the different part of the country. The medical officers, the district family planning Officers, panchayats are informed about the camp well in advance. People from all class of society come for the operation. They are influenced still more on finding their friends or known, come out with smiling face after operation to tell them that he did not feel anything. Hence to get best results it is advisable to include a trained surgeon and one or two medical officers (trainee) in such camps.

TECHNIQUE OF VASECTOMY; Before operation, the case is examined to exclude hernia, hydrocele scabies or any local skin infection. The possibility of diabetes and naemophilia is excluded. The pubic hair is shaved and the scrotal skin is cleaned with soap and water. The vasectomy is performed through two separate small incisions under local anaesthesia. The vas is identified by its characteristic cord like feeling. It is fixed between the thumb and the index finger (which is pushing the vas towards the operator). The vas is caught with a towel clip, pulled

out, mobilised from the other structures. It is clamped by two pairs of artery forceps. Small portion can be removed for biopsy. The two ends are ligated separately. The two ends brought nearer to each other (to prevent dragging pain and to facilitate re-union at a later date if need be).

My humble suggestion are the followings:-

1. To perform vasectomy at the base of scrotum in the straight part of vas deferens.
2. To excise small part of vas (to conform by biopsy)
3. To crush and ligate two ends separately.
4. To bring the two ends nearer to each other.

The stitches are removed on the 8th post operative day. Patient can home after operation. The operation will be successful once the vas deferens has been interrupted no matter which technique has been used.

COMPLICATIONS OF VASECTOMY:- The complications of vasectomy are few and far between. However, one should not forget that this is an operative procedure and like any surgical operation it is liable to carry few complications. It must be remembered that even a small complication may be a great hindrance to the whole programme. Hence all possible care should be taken to prevent complication. A small haematoma, slight eversion of skin margin (necessitating several dressings), wound infection could be prevented by little more care in pre-operative preparation, operative technique and post operative suggestions. One case of tetanus following vasectomy operation done elsewhere and a case of haematoma and wound infection in one of the VIP caused great set back in the programme for a few days the psychological disturbances like acute depression, impotency, increased sexual desire have been reported after vasectomy. I have no explanation for these symptoms.

The usually recognised complications after vasectomy are as following :-

1. Anaphylactic reaction due to procain used as local anassthetic agent.
2. Haematoma,
3. Infection - mild infection of the wound is not uncommon. Sometimes infection is due to non-absorbable suture material. Cases of tetanus and gas gangrene have also been reported.
4. Eversion of skin margin,
5. Semen fistula or sac containing semen.
6. Change in the psychological behaviour.

FAILED VASECTOMY: - I don't make an individual sterile immediately after dividing the vas. Injection of spermicidal fluid in the prostatic end of the vas has been suggested but I have no experience. By true failed Vasectomy I mean presence of spermatozoa in the semen after the lapse of unsafe period (3 - 6 months after operation or after TEN ejaculations). At the end of six month, semen is examined at two successive occasions. If the spermatozoa is absent, the operation is declared as a success. Out of about six thousand personal series of vasectomy performed by the author, only two cases of established communication through the knot were seen. The cases of so called failures were due to ligation of anything also than vas deferens. A thrombosed vein or testicular artery is easily mistaken for vas. A surgeon who has not made this mistake is a liar. I have not come across a single case of accessory vas. The cause of failed vasectomy are detailed below:-

1. Pregnancy during unsafe period (3-6 months after operation),
2. True recanalisation (a) Through the knot,
(b) Infection of suture material.
3. Ligation of wrong structure,
4. Presence of accessory vas,
5. Helped by neighbours.

REUNION OF VAS DEFERENS; With the increasing number of vasectomies done every year, the new problem of recanalisation of vas has cropped up. During the last eight years that I have started reuniting the vas deferens 84 cases have been operated upon. The number of cases coming for this operation is increasing every year. The indications for reunion of vas were as follows:-

1. Loss of children, especially the son	54 cases
2. Re-union (another marriage)	10 "
3. Accidental vasectomy (during operation for hydrocele or hernia)	4 "
4. Injury of scrotum involving vas	1 "
* 5. Psychological change after vasectomy	4 "
* 6. Wrong motivation	4 "
7. Infection of scrotum involving vas	1 "
* 8. Wrong operation done	2 "
9. Primary sterility	4 "
* 74 Cases	84 cases

TECHNIQUE OF RECANALISATION OF VAS DEFERENS: - The individual is examined. The two ends of the vas are palpated and the presence of knot is confirmed. The diabetes or local skin infection if present is controlled. The semen is examined to confirm that the individual is sterile. The pubic and scrotal hair is shaved, cleaned. The operation is performed under local anaesthesia. A vertical incision about 2" long is made on the side of the scrotum. The two ends of vas deferens are mobilised. The fibrous tissues are excised. The ends of the vas are divided by sharp cutting. The patency of the vas is confirmed. There should be free flow of white fluid from the testicular end of the vas. This fluid, if examined under microscope will reveal presence of spermatozoa. A monofilament nylon is passed in the lumen of both proximal and distal tubes. About 5 ml of sterile, normal saline is injected into lumen of proximal end of the vas, to flush out the vas deferens, seminal vesicles and common ejaculatory duct. Once the patency is confirmed, end to end anastomosis is performed. A piece of catgut put in the lumen as splint is very helpful. I use atraumatic chromic catgut with round bodied straight needle. The needle is introduced through fibromuscular coat of the vas, brought out through the lumen, threaded through the lumen of the other tube and brought out through the fibromuscular coat. The ends of catgut is brought out through the scrotal skin. The ends are approximated and anastomosis is completed by putting 5 or 6 more stitches in the fibromuscular layer of the vas. I use atraumatic 00000 chromic catgut in curved cutting needle. The dartos is approximated and the skin is closed with interrupted silk thread. The two ends of catgut is tied over a small piece of corrugated rubber sheet. The same procedure is repeated on the other side. The patient receives analgesic for a day or two. The catgut splint is removed on the fourth day and the stitches are removed on 8th day. The patient receives 25 mgm of testosterone every week (8 such), to stimulate spermatogenesis. The semen is examined after three months. In most of the cases spermatozoa will appear in semen within three months. Their number will go on increasing. Difficulties in anastomosis will arise in the following circumstances:-

1. If a long segment of vas has been excised - approximation may be difficult.
2. If the vasectomy has been performed in the convoluted part of the deferens.
3. If the testicle has undergone atrophic changes, even first class anastomosis will fail. Hence, recently, I have started removing a piece of testicle biopsy.

RESULTS OF RECANALISATION OF VAS: There were 74 cases where the vasectomy was reversed. The time between vasectomy and reversal operation varied between nine months to five years. Most of them came for operation after the loss of children. In ten cases the operation had to be done when the second wife insisted on having her own baby. In the absence of facilities for repeated semen examination, the result of operation was judged by communication through letters or friends. Out of 74 cases where vasectomy was reversed, only 9 cases came back because their wives could not conceive. In three cases the semen contained spermatozoa; but the wives needed gynaecological check up. In six cases semen did not contain spermatozoa. Two cases consented for reoperation. Both started passing spermatozoa in the semen. One of them has also got a son I presume, please mind the work presume, that in 70 out of 74 cases, the operation was successful and about 66 were able to reproduce. The result of reunion after accidental injury cannot be said, because the accident is usually unilateral and I strongly feel that two testicles are luxury; one is enough in reproduction.

In conclusion, I don't want to be too optimistic about the result of recanalisation of vas. Phadke, the authority in the subject quoted as success of anastomosis in 63 out of 73 cases and conception in only 43 cases. The percentage of conception after successful reunion in the present series has been promising. This may be due to the fact that our patients are comparatively younger and probably the interval between the first and second operation is small. One could forecast the prognosis of the case at the time the time of operation. If the two ends are patent, the result of union is going to be successful. To the people who came for vasectomy I will certainly say that the operation is a permanent one and never temporary. But if the situation arises after vasectomy, the case should be looked sympathetically and every effort should be made to recanalise the vas.

REFERENCES:-

1. Phadke G.M. and Phadke A.G. (1967) Journal of Urology 97, 888.
2. Wellers H. (1970) Psychological aspect of Vasectomy, BMJ. 4, 297.
3. Sharma, B.P. (1970) JNMA, southern Med. Journal

4. Personal communication from FPA of Nepal & FP & MCH, Nepal.
5. Central Bureau of Statics, HMG, 1972 census.
6. Sharma, A.K. (1969), JNMA 7, 132.
7. Gongöl D.N., (1969) JNMA, 7, 136.
8. Hai Khan A (1969) JNMA, 7, 141.
9. Shah, Moın, (1969) JNMA, 7, 134.
10. Pandey, J.R. (1969) JNMA 7, 138.
11. Hulka J.F. & Davies, J.E. (1972) Fertility & Sterility, 25: 9. 684.