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Original Article

Evaluation of different techniques in management of Malignant Ascites

Dr. Brijesh singh* , Dr. Arun kumar Patel, Dr. Aruna Patel

[a]*Assistant Professor, Dept of Suregery, Shyam Shah Medical College, Rewa, Madhya Pradesh-486001*
[b]*Assistant Professor , ENT DEPT. Jhalawar medical college , Jhalawar(Rajasthan)*
[c]*Assistant Professor , Deptt. Of physiology, Shyam Shah Medical College, Rewa, Madhya Pradesh-486001*

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ABSTRACT

The Present study was done in the Department of Surgery, J.A. Group of Hospitals and C.H.R.I. Gwalior in 40 Patients with malignant ascites in which 16(40%) were male and 24(60%) were female. Mean age was 54 years (Range 17-75yrs.) Out of 40 patients 20 (50%). patient underwent repeated paracentesis, 10(25%) underwent diuretic therapy and 10 (25%) patient underwent peritoneo-saphenous shunts. The reudction is abdominal girth following treatment by various procedures from pre treatment measurement was statistically significant at 0.1% level (P<0.001). The reduction in number of large volume paracentesis post peritoneo-saphenous shunt till 3 month follow up as compared to pre-peritoneo-saphenous shunt was statistically significant at 0.1 level (P<0.001). Shunt patency was 100% (8 patients) at 1 month follow-up and 75% (6 patients) at 3 month follow up. Thus we conclude that peritoneo-saphenous shunt, repeated paracentesis is simple, safe and effective treatment modality. PS Shunt offers the benefits of prosthetic peritoneovenous shunt without the disadvantages and the expense of a prosthesis. shunt patency rate are high and it offers good control of ascites as evidenced by reduction in abdominal girth, reduirement of large volume paracentesis and improvement in subjective criterias (appetite, locomotion etc.) Complications of repeated paracentesis and shunt surgery are few and mostly manageable.

1.Introduction

The word ascites is derived from the Greek word askos, which means "bag" of "sac". Ascites is pathological accumulation of excess fluid with in the peritoneal cavity. Malignant ascites is the collection of intra peritoneal fluid in a patient with known intra abdominal cancer. Malignant peritoneal effusion, or ascites, is usually associated with advanced disease and poor prognosis. They have a devastating effect on individuals ability to function and on their quality of life. Malignancy is the cause of ascites in 10% of patients who presents with it [1]. Malignant ascites most commonly results for peritoneal "studding" and occlusion of the diaphragmatic lymphatic leading to impaired reabosorption of abdominal fluid[2].

Patients with malignant ascites should be broadly divided into two categories those with short (< 3 Months) and those with longer life expectancy. Peritoneovenous shunt will palliate 75% of patient with longer life expectancy, busy should be avoided in patients with bloody, loculated or viscous ascites owing too the risk of embolization[3-5]. Diuretics are less effective for malignant ascites than for cirrhotic ascites. Spironolactone may be of some benefit in patient in whom activation of the renin-aldosterone axis is suspected [6].

According to Souter et al[7], a patient with malignant ascites whose only considered therapeutic goal is palliation, should first under go repeated paracentesis and medical management with diuretics.

2. Aims and Objectives

The present study was done with the following Aims & Objectives:-

1. To assess the efficacy of diuretics, repeated paracentesis and shunt surgery (pertoneo-saphenous shunt) in management of malignant ascites.

* Corresponding Author : Dr. Brijesh singh
Assistant Professor Deptt. Of surgery,
Shyam Shah Medical College, Rewa,
Madhya Pradesh-486001
Email ID- deepakshalu07@yahoo.co.in

2. To assess the morbidity and mortality associated with various procedures.

3. To assess and compare the effect of various procedure on "Quality of Life" with reference to ADL (Activities of Daily Living).

3.Material and Methods

Medical therapy included bed rest, salt restricted diet and aggressive use of diuretics (Spironololactone, upto 400 mg/day plus furosemide 160 mg/day), albumin infusion and paracentesis. Patient receiving diuretics, the initial doses of furosemide and spironolactone was 40 and 200 mg/day, respectively. These doses were increased upto 160mg and 400 mg/day, if there was no response (mean loss of body weight <200mg /day.)

Total 10 Patients were received diuretics therapy out of 40 patents, 4 were male and 6 were female with the mean age 55.6 years (ranges) 40-75 years.

Abdominal paracentesis is frequently used to remove accumulated fluid and relive symptoms. Paracentesis was performed in the left lower abdominal quadrant using the wide bore venflon and connecting it with ruobag through a sterile drip set, with monitoring the B.P. and urine output with IV supplementation.

In 20 patients, out of 40 , repeated paracentesis was done. 7 were male and 13 were female with the mean age 56.8 years (ranges 30-75 years.)

Peritoneo-saphenous shunt procedure

A total of 1 peritoneo-saphenous shunt procedure was done in 40 patients. 5 (50%) were male and 5(50%) were female with the mean age 49.7 years (range 17-70 years.)

4.Results

Table 1:-Table showing age distributions

Age Group (in years)	No. of patients	Mid point	% of patients in each age group
15-20	01	17.5	2.5
21-25	00	22.5	0
26.30	01	27.5	2.5
31-35	00	32.5	0
36-40	04	37.5	10
42-45	04	42.5	10
46-50	07	47.5	17.5
51-55	02	52.5	5
56-60	11	57.5	27.5
61-65	02	62.5	5
66-70	05	67.5	12.5
71-75	03	72.5	7.5
Total	40		

Mean age 54 yrs. (range 17-75 yrs.)

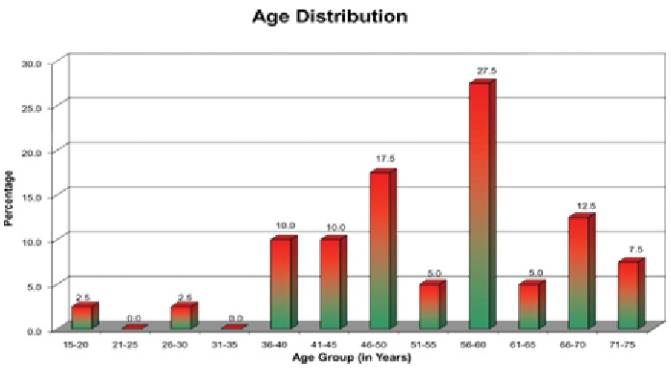


Table 2: Showing sex distribution of patients with malignant ascites out of 40 patients, 16(40%) were male and 24 (60%) were female.

Sex	No	%
Male	16	40%
Female	24	60%

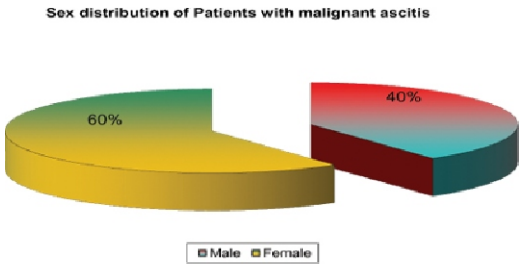


Table 3. showing distribution of patients according to reduction in abdominal girth (in cms) after 3 months follow up post treatment, as compared to abdominal girth prior to treatment.

Reduction in abdominal girth post treatment at 3 months follow up (in cm)	No. of Patients	Percentage
0-2	0	0
3-5	2	5.56
6-8	21	58.38
9-11	10	27.8
12-14	3	8.34
Total	36	

(Four patients who died in post treatment period were not included).

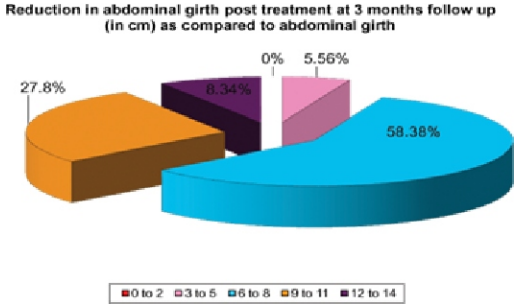
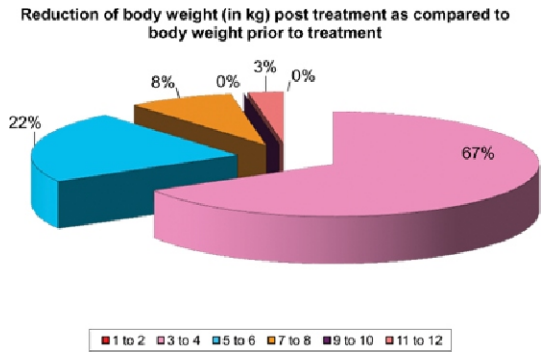


Table 4. showing distribution of patient according to reduction in body weight (in kg.) post treatment, as compared to body weight prior to treatment.

Reduction in body weight (in kg.) post treatment as compared to body weight prior to treatment.	No. of Patients	Percentage
1-2	0	0
3-4	24	66.72
5-6	8	22.24
7-8	3	8.34
9-10	0	0
11-12	1	2.78
Total	36	

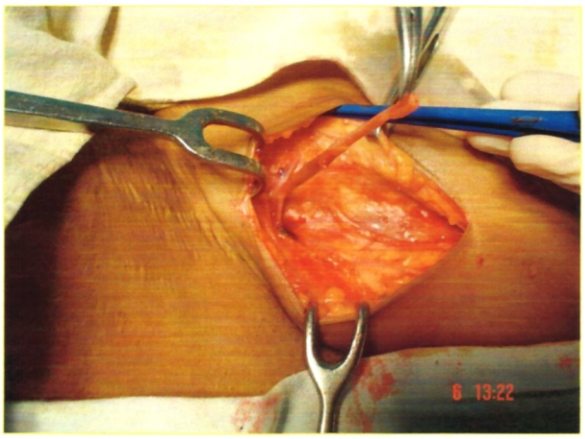
(Four patients who died in post treatment period not included).



PHOTOGRAPHS

Paracentesis is being done in tense malignant ascites (due to Carcinoma Gall Bladder)

Long Saphenous Vein Segment



Peritoneo-Saphenous Anastomosis

5. Statistical Analysis

It showing improvement in subjective criteria and ability to perform AFL at 3 months post treatment by different modalities, compared to pre treatment level.

	Appetite	Locomotion	Respiratory Embarrassment	ADL
Pre treatment mean score	1	1	1	1
Post treatment mean score (+ S.D.)	2.86 (+ 0.891)	2.80 (+ 0.49)	2.78 (+ 0.78)	2.86 (+ 0.59)
't' value	10.83	19.22P	15.8P	19.62P
Probability	P<0.001	<0.001	<0.001	<0.001
Significance	Highly Significant	Highly Significant	Highly Significant	Highly Significant

In all these subjective criteria's of appetite, locomotion and respiratory embarrassment and ability to perform ADL , following the different modalities of treatment as compared to pre treatment levels, the improvement was highly significant (P<0.001) in all of these.

6.Discussion

Present study was done in 40 patients with malignant ascites and in 20 patients repeated paracentesis was done, in 10 patients diuretics therapy were given and in 10 patients peritoneo-saphenous shunt procedure was done.

Patients

Study	Total No. of Patients	No. of Males	No. of Females	Mean age of group (range in yrs)
Paul J. Pock Ros & Reynolds et al	16	8	8	60.87yrs (43.74 yrs)
Y Lau, JR Kirkpatrick et al	35	9	26	60.5 yrs
Present study	40	16	24	54 yrs (17-75 yrs)

6.1.Reduction in Weight :-

In study by L Kau, JR Kirkpatrick et al 72% of patients had failed diuretics and repeated large volume paracentesis. The mean weight decreased after shunt weight decreased after peritoneo-saphenous shunt 5.75kg (P<0.001).

6.2.Reduction in Abdominal Girth

Reduction in abdominal girth following peritoneo-saphenous shunt in the study of kemal et al 9 (90%) of 10 patients who left the hospital after surgery had a significant reduction in abdominal girth the time of discharge. In the present study, mean reduction of abdominal girth was 9.62 cm at 3 month follow up.

The reduction in abdominal girth (10 cms) at 3 months followup post PS shunt as compared to pre shunt values of abdominal is statistically significant at P<0.001 i.e. peritoneo-saphenous shunting is highly effective in reducing the abdominal girth and hence improving patients appetite, locomotion and ability to perform activities of daily living.

The incidence of DIC after placement of a peritoneoyenous shunt was reported in 3.6% to 100% of cases[8-10].

The relationship between the shunt and DIC is unclear, however, it may be that peritoneovenous infusion of ascites, causing DIC [11],[12].

Richard et al. advocated that there is little possibility possibility of dissemination to other organs by peritoneovenous shunting [13].

6.3.Survival

In the present study on peritoneo-saphenous shunt the mortality as 20% the good results were abtained in 80%.

10 patients receiving diuretic treatment alone, the mortality was 20% and none of patient died due to treatment by repeated paracentesis. Good results were obtained, overall in 90% (36 out of 40 patients) by treatment with diuretics. repeated paracentesis and PS-Shunt Procedure.

In Present study patients of malignant ascites were better palliated by PS-Shunt as compared to repeated Paracentesis & diuretics.

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