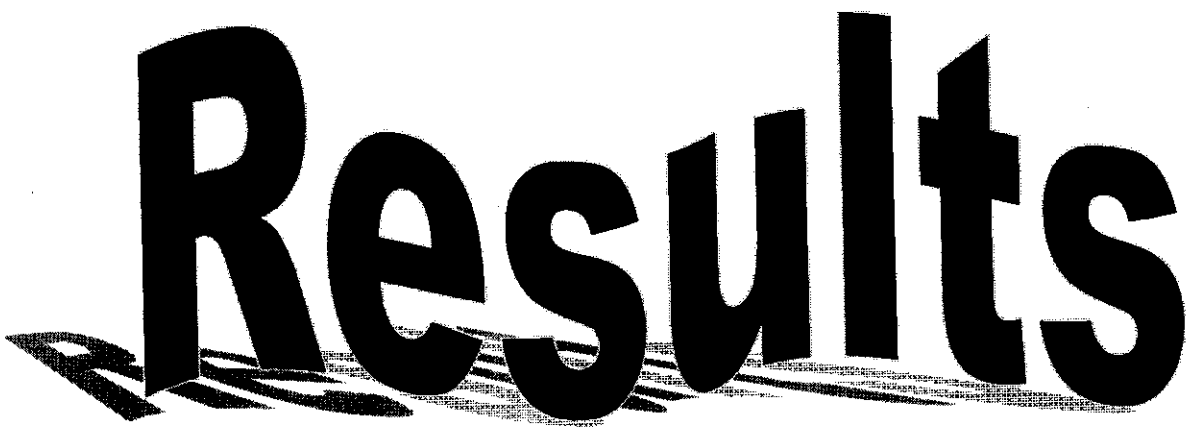
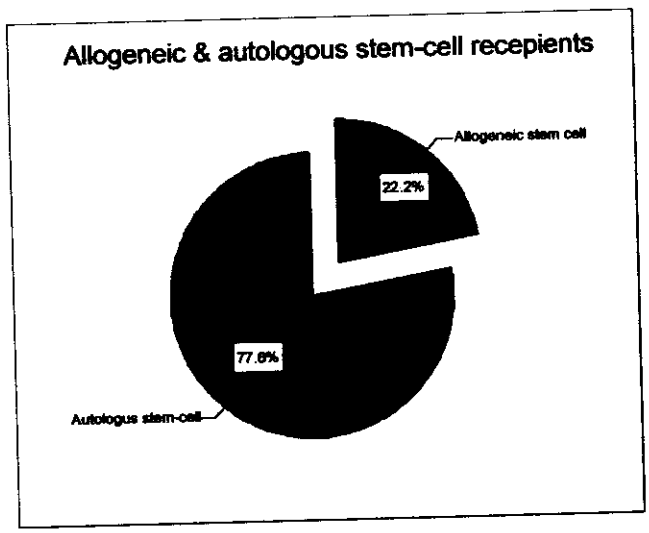

Results

Results

1- ***Frequency distribution of the studied group according to type of recipients***

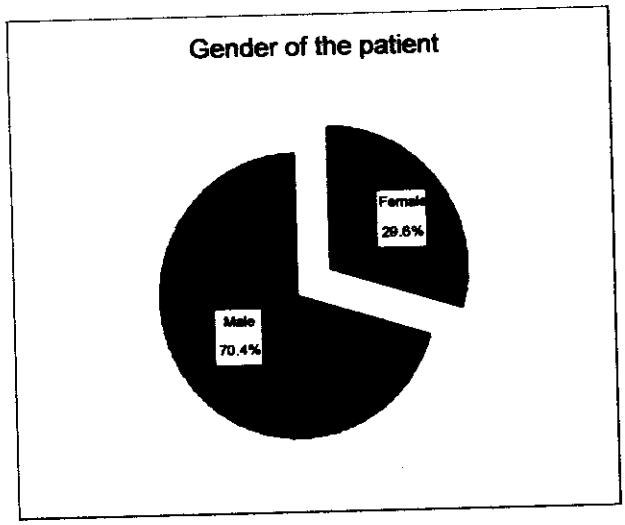
	Frequency	Percent
Allogeneic stem cell recepient	6	22.2
Autologus stem-cell recepient	21	77.8
Total	27	100.0



Most recipients had autologous grafts (77.8%)

2- Frequency distribution of the patients according to gender

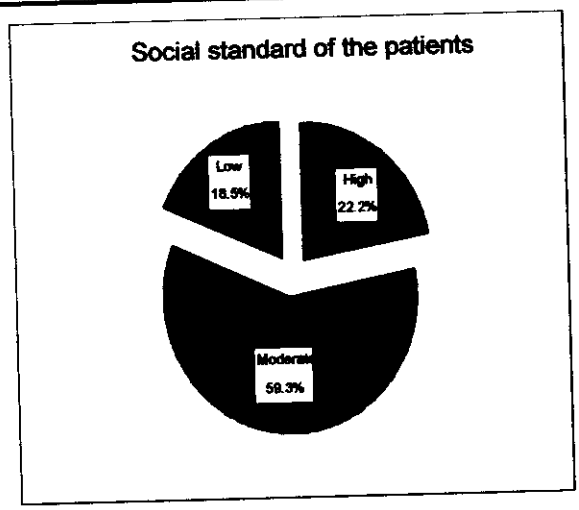
	Frequency	Percent
Female	8	29.6
Male	19	70.4
Total	27	100.0



70.4 % of recipients were males

3- Frequency distribution of the patients according to social standard.

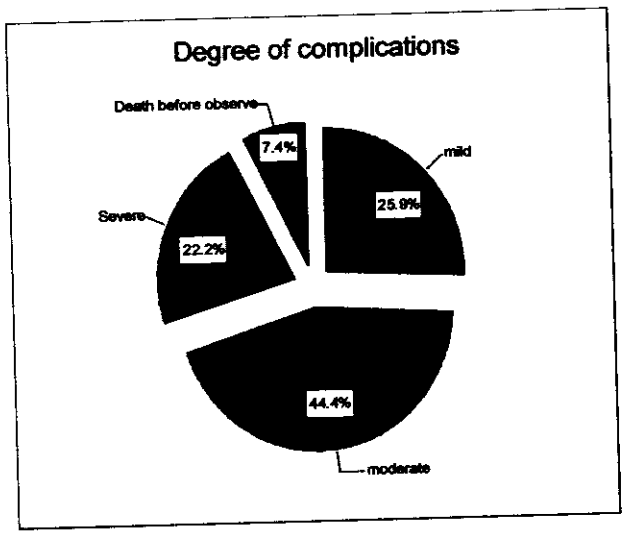
	Frequency	Percent
High	6	22.2
Moderate	16	59.3
Low	5	18.5
Total	27	100.0



Nearly 60% of the patients were considered moderate socially

4- Classification of patients according to degree of complications

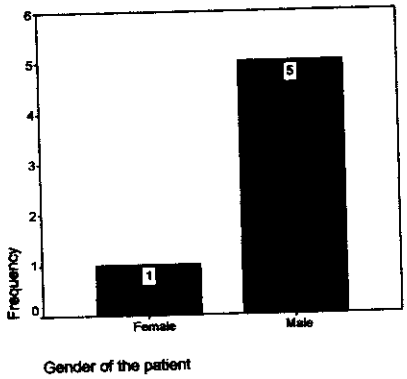
	Frequency	Percent
mild	7	25.9
moderate	12	44.4
Severe	6	22.2
Death before observed complication	2	7.4
Total	27	100.0



• Allogeneic group :

5- Frequency distribution of the allogeneic stem-cell recipients according to gender

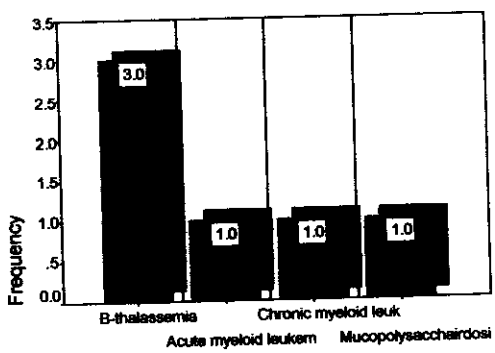
	Frequency	Percent
Female	1	16.7
Male	5	83.3
Total	6	100.0



Nearly 83% of allogeneic recipients were males

6- Different indications of stem cell transplantation among allogeneic group

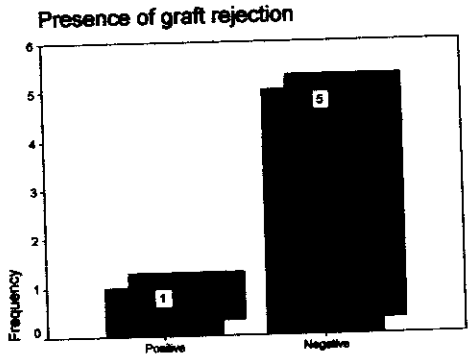
		Frequency	Percent
	B-thalassemia	*3*	*50.0*
	Acute myeloid leukemia	*1*	*16.7*
	Chronic myeloid leukemia	*1*	*16.7*
	Mucopolysacchairdosis	*1*	*16.7*
	Total	*6*	*100.0*



β-thalassemia was the commonest indication for allogeneic stem cell transplantation in MUCH-SCT unit.

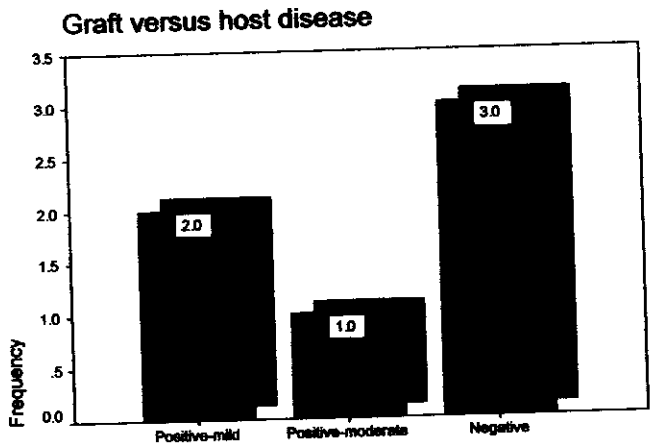
7- Frequency distribution of allogeneic group according to graft rejection

	Frequency	Percent
Positive	1	16.7
Negative	5	83.3
Total	6	100.0



8- Frequency distribution of allogeneic group according to graft versus host disease

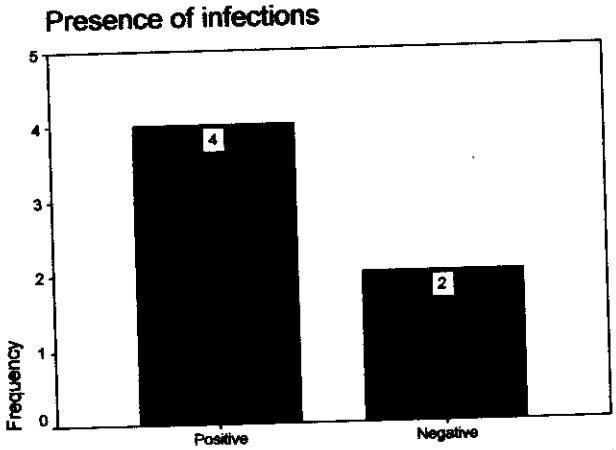
	Frequency	Percent
Positive-mild	2	33.3
Positive-moderate	1	16.7
Negative	3	50.0
Total	6	100.0



Acute GVHD occurred in 50% allogeneic recipients, it occurred in all recipients that survived beyond the 1st month.

9- *Frequency distribution of allogeneic group according to presence of infection*

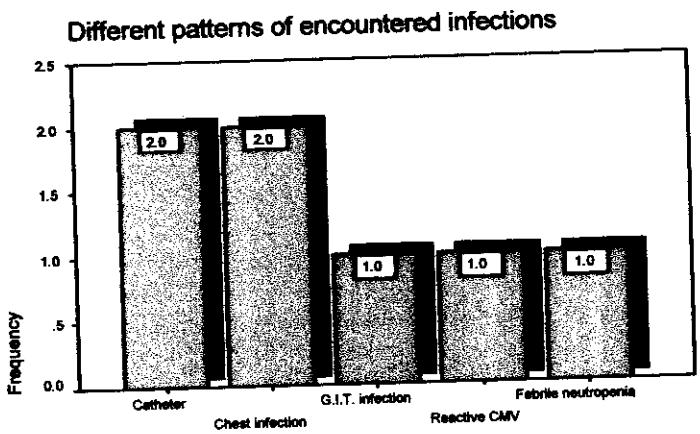
	Frequency	33.3
Positive	4	66.7
Negative	2	33.3
Total	6	100.0



There were no recorded infections in 2 cases both died early in D_{+3} & D_{+19} respectively

10- *Different patterns of encountered infections among allogeneic group*

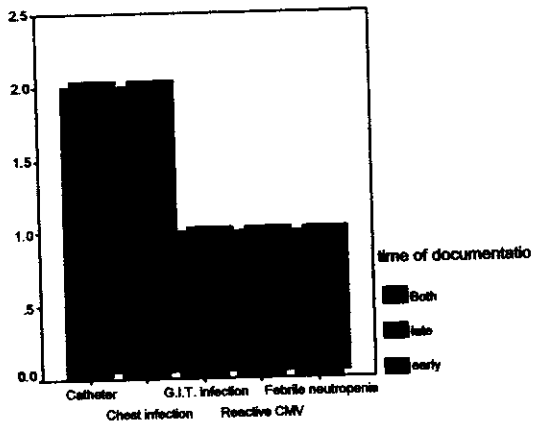
	Frequency	*Percent*
Catheter infection	*2*	*28.6*
Chest infection	*2*	*28.6*
G.I.T. infection	*1*	*14.3*
Reactivation of CMV	*1*	*14.3*
Febrile neutropenia	*1*	*14.3*
Total	*7*	*100.0*



Catheter related infections & chest infections occurred more commonly (about 57% of recorded infections).

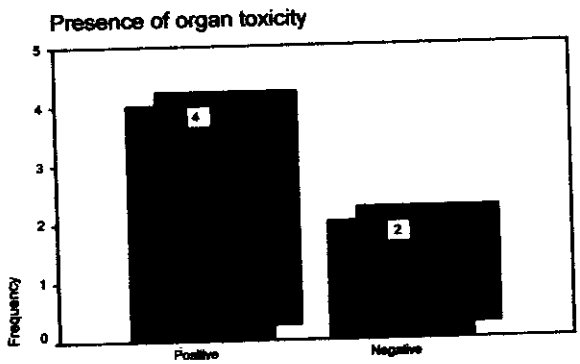
11- Different patterns of encountered infections according to time of documentation of infection

		Time of documentation of infections			
		Early	Late	Both	Total
Different patterns of encountered infections	*Catheter infection.*	2			2
	Chest infection			2	2
	G.I.T. infection	1			1
	Reactivation of CMV		1		1
	Febrile neutropenia	1			1
	Total	4	1	2	7



12- Frequency distribution of the allogeneic stem-cell recipients according to presence of organ toxicity

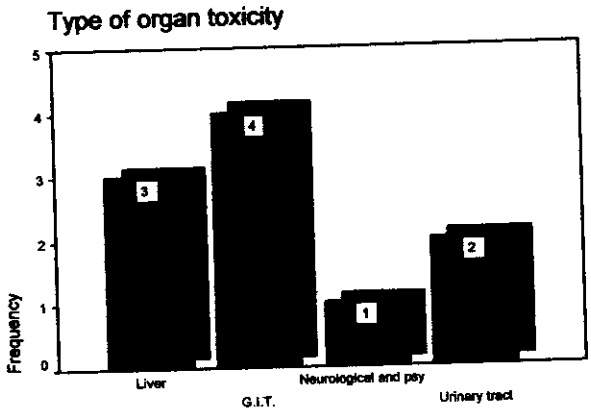
	Frequency	Percent
Positive	4	66.7
Negative	2	33.3
Total	6	100.0



There were 2 cases that didn't suffered organ toxicities, both died early after transplantation

13- Frequency distribution of the allogeneic stem-cell recipients according to type of organ toxicity

	Frequency	Percent
Liver	3	30.0
G.I.T.	4	40.0
Neurological and psychatric	1	10.0
Urinary tract	2	20.0
Total	10	100.0

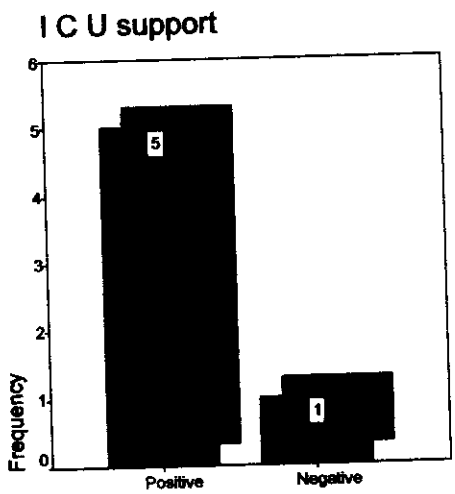


GIT & liver toxicities were recorded more frequently among allogeneic recipients

14- Frequency distribution of allogeneic group according to ICU support

I C U support

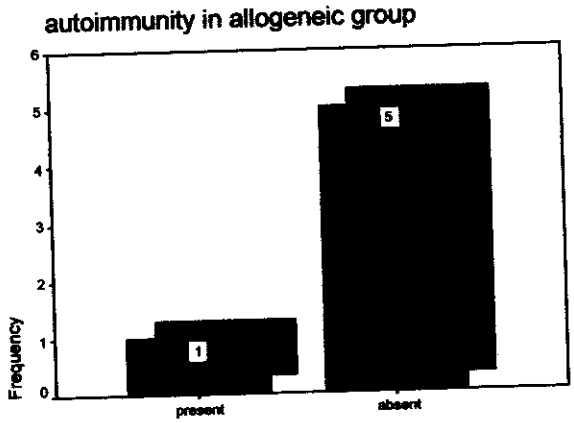
	Frequency	Percent
Positive	5	83.3
Negative	1	16.7
Total	6	100.0



There was only one case that didn't had ICU-support she passed smoothly in post-transplantation period.

15- Frequency distribution of autoimmunity among allogeneic group

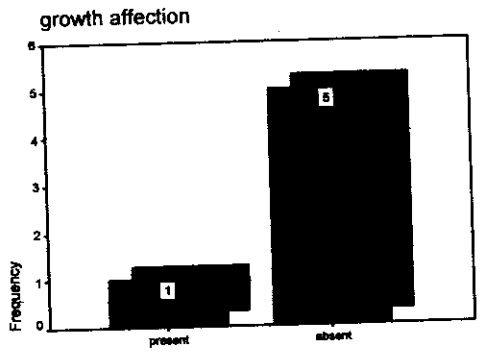
		Frequency	Percent
	present	1	16.7
	absent	5	83.3
	Total	6	100.0



There was only one case that suffered from myopathy in late post-transplantation period.

16- Frequency distribution of growth affection among allogeneic group

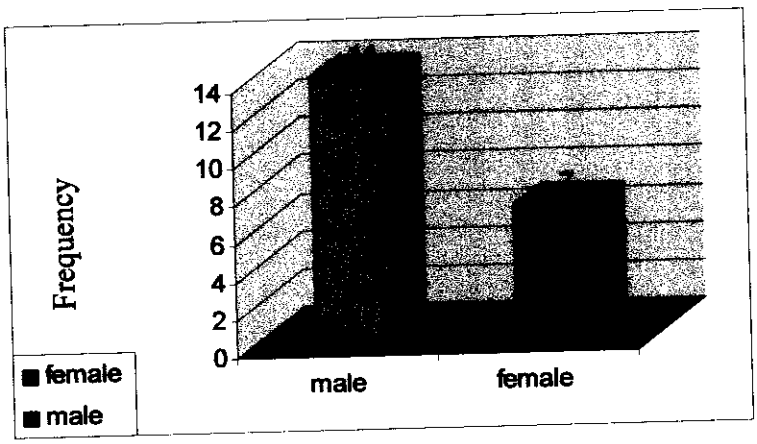
		Frequency	Percent
	present	1	16.7
	absent	5	83.3
	Total	6	100.0



• Autologous group:

17- Frequency distribution of autologus group according to gender

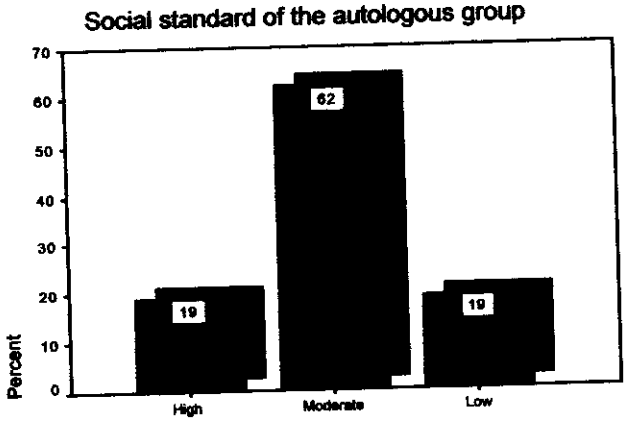
	Frequency	Percent
Female	7	33.33%
Male	14	66.66%
Total	21	100.00



2/3 of autologous recipients were males

18- Frequency distribution of autologus group according to social class

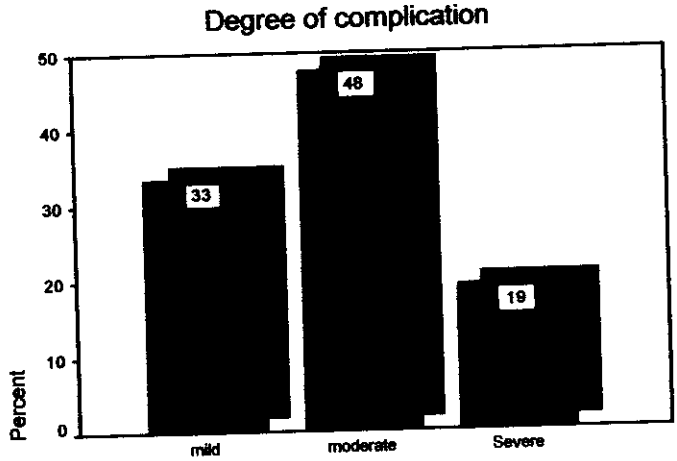
	Frequency	Percent
High	4	19.0
Moderate	13	61.9
Low	4	19.0
Total	21	100.0



Nearly 62% of autologous group were moderate socially

19- Frequency distribution of autologous group according to degree of Complications

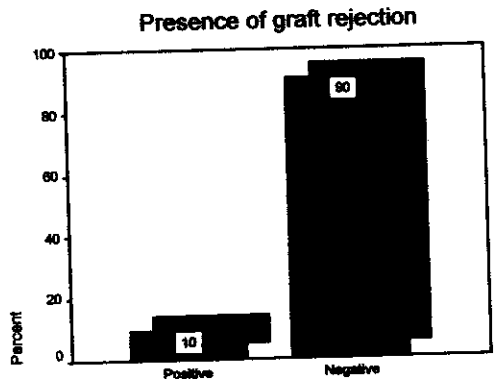
	Frequency	Percent
mild	7	33.3
moderate	10	47.6
Severe	4	19.0
Total	21	100.0



Nearly 48% of autologous group had moderate (in severity) degree of complications.

20- Frequency distribution of autologus group according to graft failure (rejection).

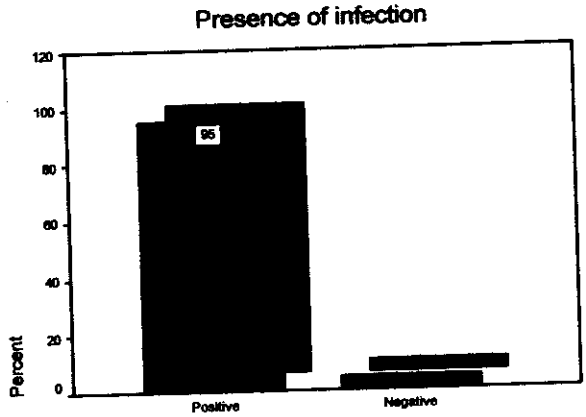
	Frequency	Percent
Positive	2	9.5
Negative	19	90.5
Total	21	100.0



Graft failure occurred in about 10% of autologous recipients

21- Frequency distribution of autologus group according to presence of infection

	Frequency	Percent
Positive	20	95.2
Negative	1	4.8
Total	21	100.0



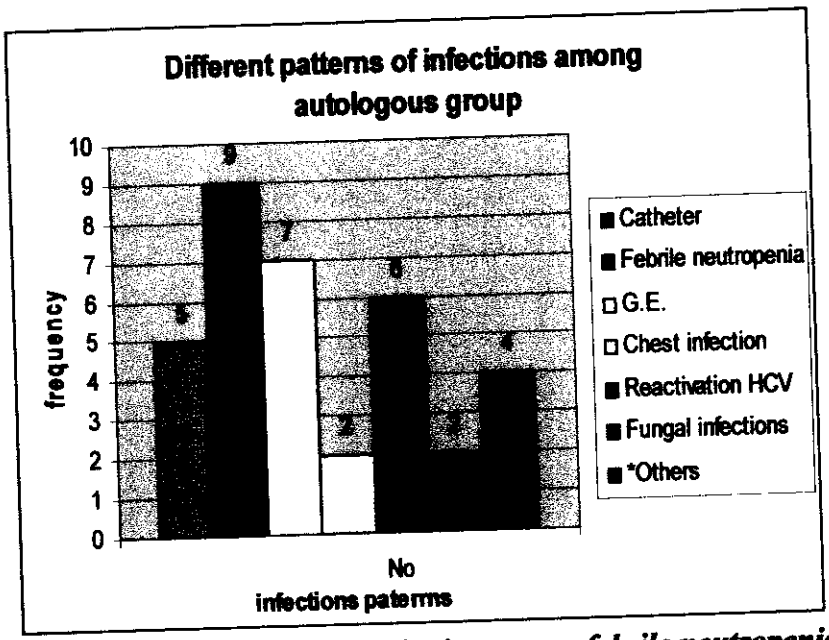
Significant infections were recorded in nearly 95% of autologous recipients

22-Infections patterns encountered in autologous group

Infections	No	%
Catheter	5	14.3
Febrile neutropenia	9	25.7
G.E.	7	20.0
Chest infection	2	5.7
Reactivation HCV	6	17.1
Fungal infections	2	5.7
*Others	4	11.5
**Total	35	100.0

*Others involved infections (dental, acquired virus, pyogenic skin& perianal cellulites)

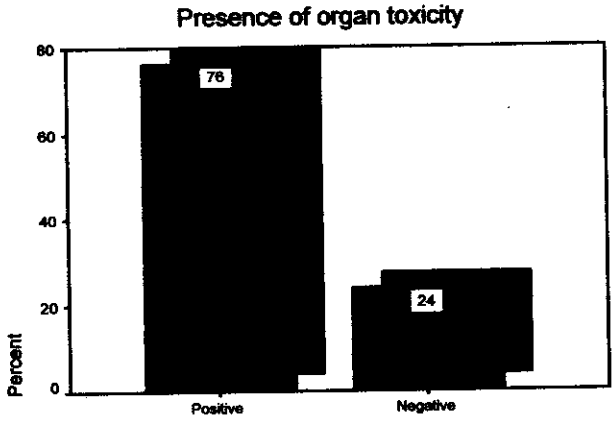
**Total of autologous patients was 21 (more than infection encountered in many patients).



The most commonly encountered infections were: febrile neutropenia, gastroenteritis, reactivation of HCV and catheter related infections.

24- Frequency distribution of autologus group according to presence of organ toxicity

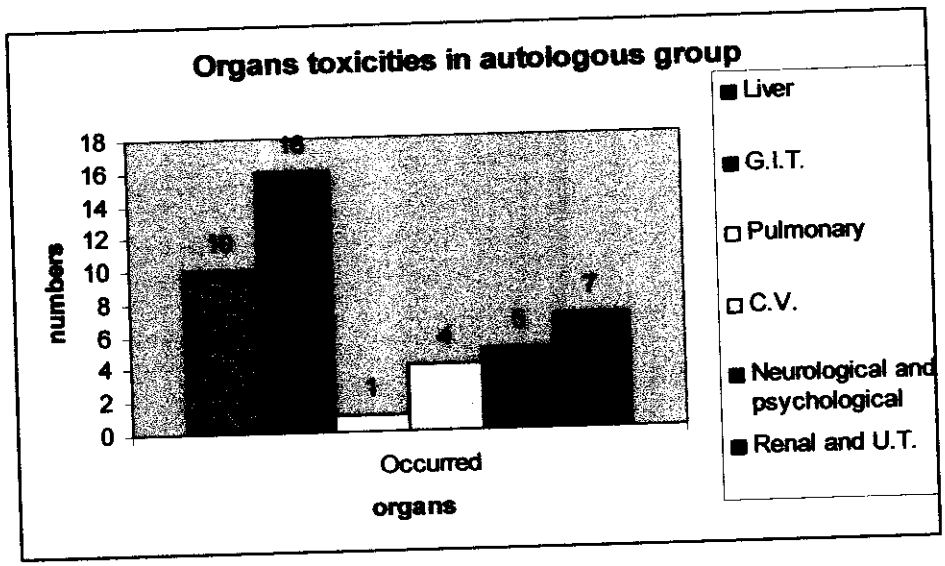
	Frequency	Percent
Positive	16	76.2
Negative	5	23.8
Total	21	100.0



There were 5 cases with no recorded organ toxicity, they all passed smoothly throughout post-transplantation period.

25- Frequency distribution of autologous group according to occurrence of toxicities in different organs.

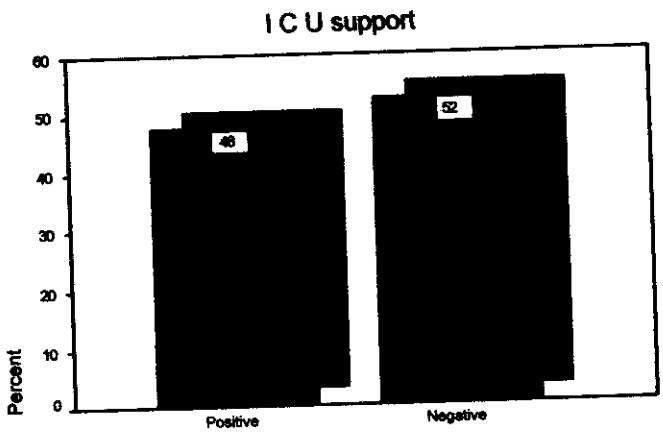
Toxicities / Organs	Occurred No	Occurred %	Not-occurred No	Not-occurred %	Total No	Total %
Liver	10	47.6	11	52.4	21	100.0
G.I.T.	16	76.2	5	23.8	21	100.0
Pulmonary	1	4.8	20	95.2	21	100.0
C.V.	4	19.0	17	81.0	21	100.0
Neurological and psychological	5	23.8	16	76.2	21	100.0
Renal and U.T.	7	33.3	14	66.7	21	100.0



GIT & liver toxicities were the most commonly recorded organ toxicities in autologous group.

26- Frequency distribution of autologus group according to presence of ICU support

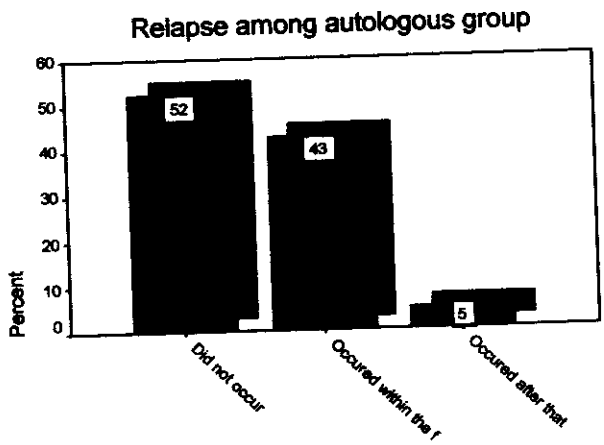
	Frequency	Percent
Positive	10	47.6
Negative	11	52.4
Total	21	100.0



Only 10 cases in autologous group had admitted to ICU

27- Frequency distribution of autologus group according to presence of relapse

	Frequency	Percent
Did not occur	11	52.4
Occured within the first year	9	42.9
Occured after that	1	4.8
Total	21	100.0



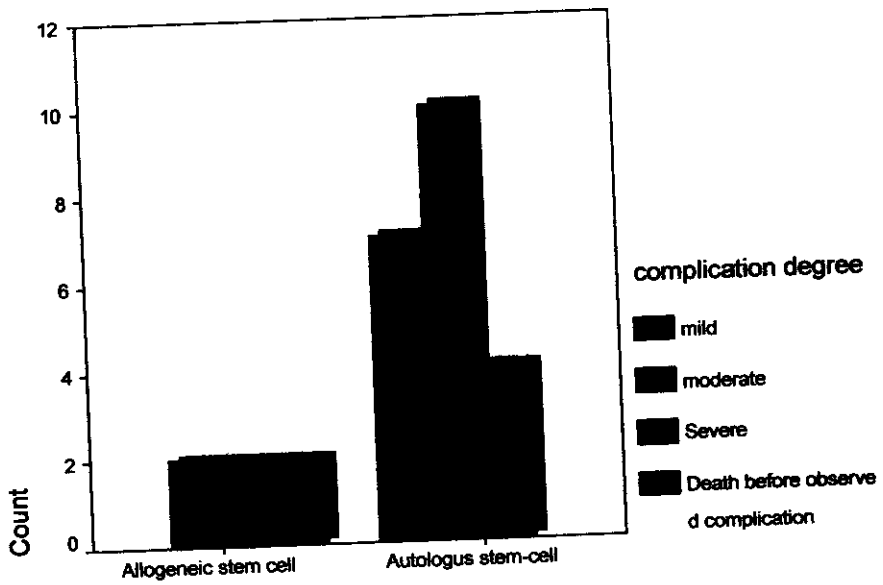
Relapse of the malignancy was a major problem in autologous group. Ten from 21 cases had relapses

- **Different relations between different variables and occurrence of complications in SCT recipients**

28- Relation between type of procedure and degree of complication

			Allogeneic & autologous stem-cell recepients		
			Allogeneic stem cell recepient	Autologus stem-cell recepient	Total
Degree of complication	mild	Count		7	7
		Percet		33.3%	25.9%
	moderate	Count	2	10	12
		Percet	33.3%	47.6%	44.4%
	Severe	Count	2	4	6
		Percet	33.3%	19.0%	22.2%
	Death before observed complication	Count	2		2
		Percet	33.3%		7.4%
Total		Count	6	21	27
		Percet	100.0%	100.0%	100.0%

Chi = 9.643 P< 0,05



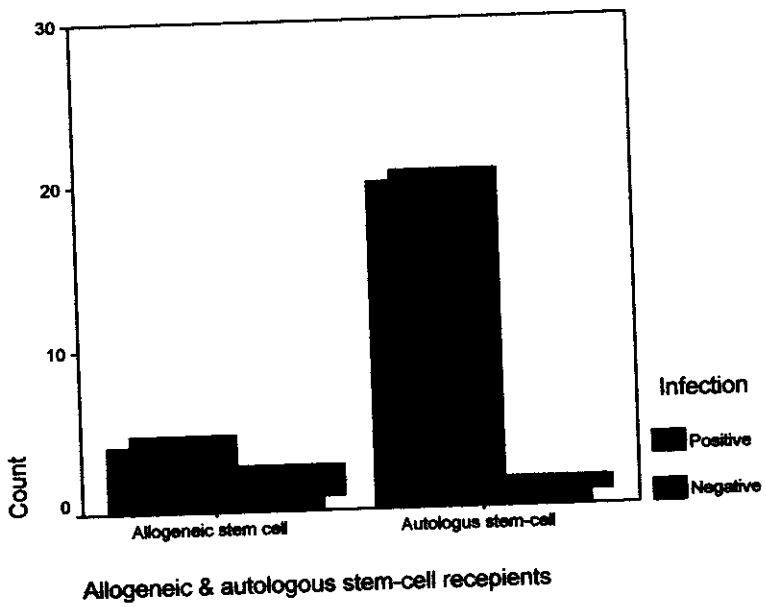
Severe complications were recorded in 1/3 of allogeneic recipients, and in 19% of autologous group

Death before observed complication were recorded in 1/3 of allogeneic recipients and was not recorded to occur in autologous group.

29- Relation between type of procedure and presence of infection

			Allogeneic & autologous stem-cell recepients		
			Allogeneic stem cell recepient	Autologus stem-cell recepient	Total
Presence of infection	Positive	Count	4	20	24
		Percent	66.7%	95.2%	88.9%
	Negative	Count	2	1	3
		Percent	33.3%	4.8%	11.1%
Total		Count	6	21	27
		Percent	100.0%	100.0%	100.0%

Chi = 3.857 P< 0.05



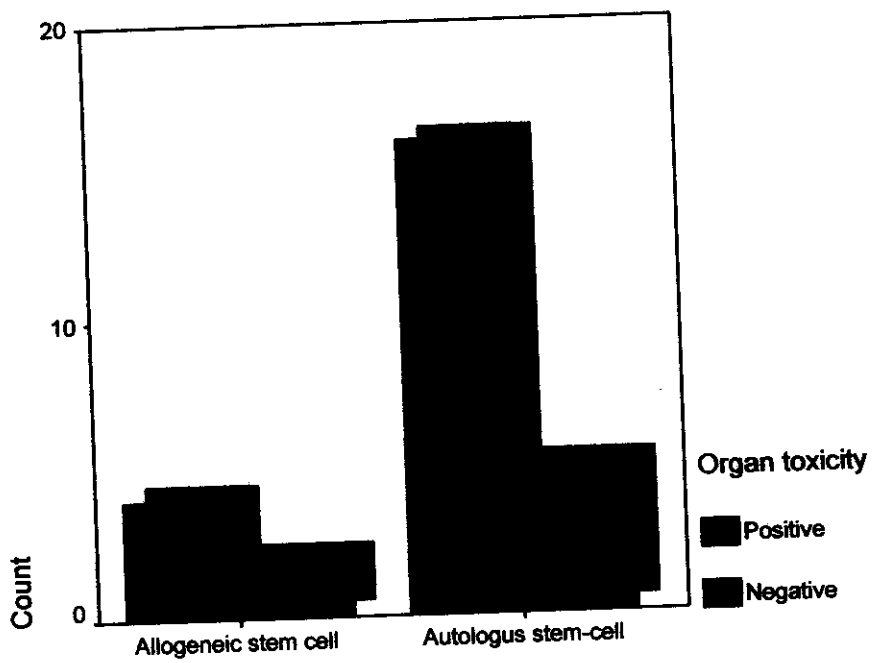
Significant infections were recorded in 95% of autologous group & in 66.7 of allogeneic group, however, those who had no recorded infections in allogeneic recipients died early after transplantation.

30- Relation between type of procedure and presence of organ toxicity.

			Allogeneic & autologous stem-cell recepients		
			Allogeneic stem cell recepient	Autologus stem-cell recepient	Total
Presence of organ toxicity	Positive	Count	4	16	20
		Percent	66.7%	76.2%	74.1%
	Negative	Count	2	5	7
		Percent	33.3%	23.8%	25.9%
Total		Count	6	21	27
		Percent	100.0%	100.0%	100.0%

Chi = 0.220 P> 0.05

Odd's ratio = 0.625



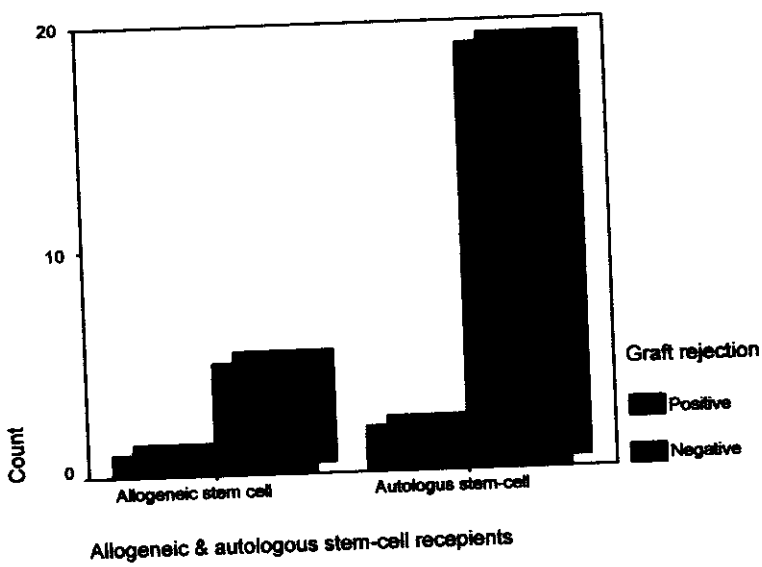
Organ toxicities were recorded more commonly in autologous group. However, those who had no recorded organ toxicity in allogeneic group, died early after transplantations

31- Relation between type of procedure and presence of graft rejection

			Allogeneic & autologous stem-cell recepients		
			Allogeneic stem cell recepient	Autologus stem-cell recepient	Total
Presence of graft rejection	Positive	Count	1	2	3
		percent	16.7%	9.5%	11.1%
	Negative	Count	5	19	24
		percent	83.3%	90.5%	88.9%
Total		Count	6	21	27
		percent	100.0%	100.0%	100.0%

Chi = 0.241 P> 0.05

Odd's ratio = 1.900

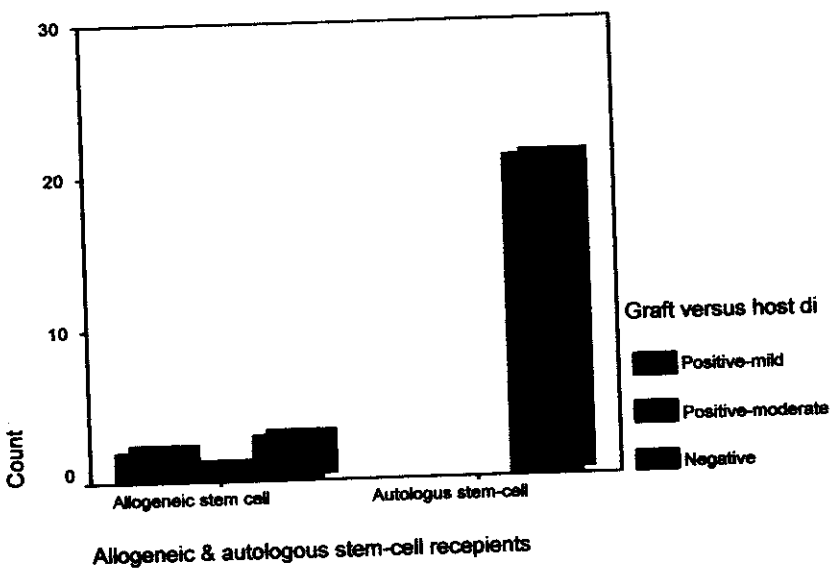


Graft rejection (failure) occurred in both groups. In allogeneic group it was related to donor recipient mismatch, while in autologous group it was attributed to affection of marrow microenvironment by previous chemotherapy, radiotherapy or initial disease.

32- Relation between type of procedure and graft versus host Disease

			Allogeneic & autologous stem-cell recepients		
			Allogeneic stem cell recepient	Autologus stem-cell recepient	Total
Graft versus host disease for allogeneic cases	Positive-mild	Count	2		2
		Percent	33.3%		7.4%
	Positive-moderate	Count	1		1
		Percent	16.7%		3.7%
	Negative	Count	3	21	24
		Percent	50.0%	100.0%	88.9%
Total		Count	6	21	27
		Percent	100.0%	100.0%	100.0%

Chi = 11.813 P< 0.05

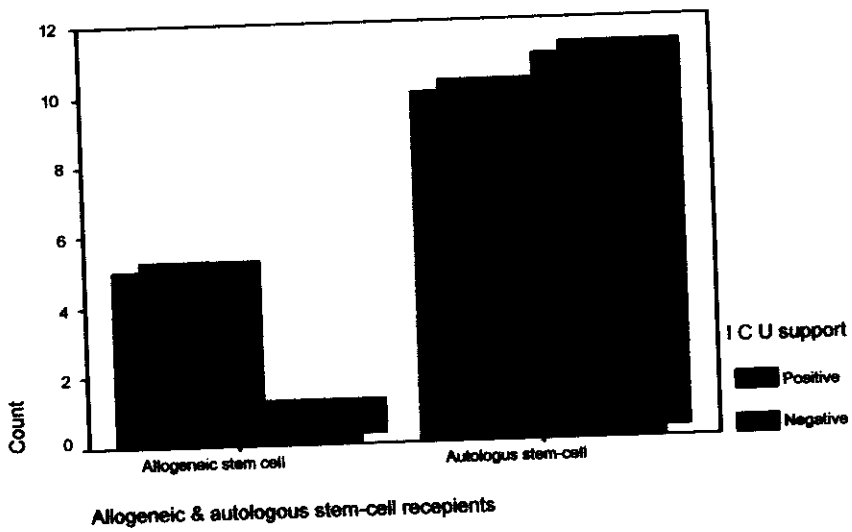


- GVHD was not a problem with autologous SCT.
- Acute GVHD occurred in all allogeneic recipient who survived beyond the 1st month.

33- Relation between type of procedure and ICU support

			Allogeneic & autologous stem-cell recepients		
			Allogeneic stem cell recepient	Autologus stem-cell recepient	Total
I C U support	Positive	Count	5	10	15
		Percent	83.3%	47.6%	55.6%
	Negative	Count	1	11	12
		Percent	16.7%	52.4%	44.4%
Total		Count	6	21	27
		Percent	100.0%	100.0%	100.0%

CHI square = 2.411 P> 0.05
Odd's ratio = 5.500



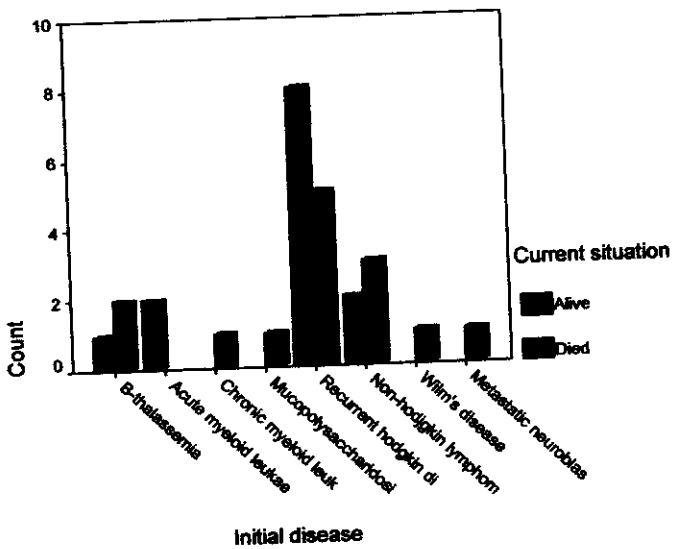
About 83% of allogeneic group had ICU support. While only 52% of autologous group had admitted to ICU.

34- Relation between initial disease and current situation

		Current situation		Total
		Alive	Died	
B-thalassemia	Count	1	2	3
	% within Original disease	33.3%	66.7%	100.0%
	% of Total	3.7%	7.4%	11.1%
Acute myeloid leukaemia	Count	2		2
	% within Original disease	100.0%		100.0%
	% of Total	7.4%		7.4%
Chronic myeloid leukaemia	Count		1	1
	% within Original disease		100.0%	100.0%
	% of Total		3.7%	3.7%
Mucopolysaccharidosis	Count		1	1
	% within Original disease		100.0%	100.0%
	% of Total		3.7%	3.7%
Recurrent hodgkin disease	Count	8	5	13
	% within Original disease	61.5%	38.5%	100.0%
	% of Total	29.6%	18.5%	48.1%
Non-hodjgkin lymphoma	Count	2	3	5
	% within Original disease	40.0%	60.0%	100.0%
	% of Total	7.4%	11.1%	18.5%
Wilm's disease	Count		1	1
	% within Original disease		100.0%	100.0%
	% of Total		3.7%	3.7%
Metastatic neuroblastoma	Count		1	1
	% within Original disease		100.0%	100.0%
	% of Total		3.7%	3.7%
Total	Count	13	14	27
	% within Original disease	48.1%	51.9%	100.0%
	% of Total	48.1%	51.9%	100.0%

Chi square = 7.198

P> 0.05

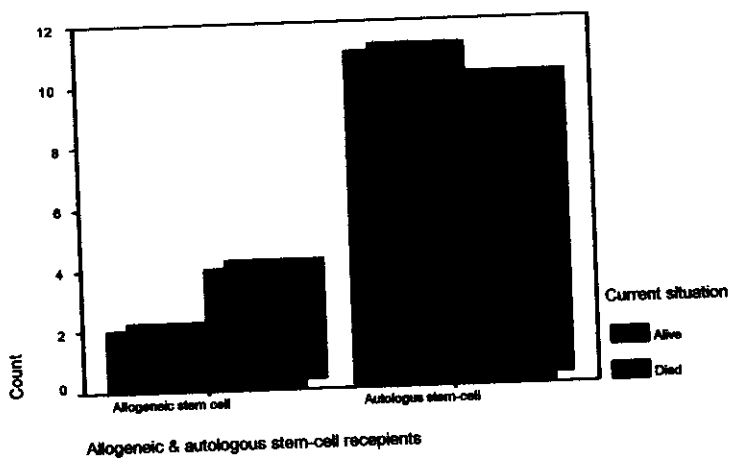


Best results were obtained in acute myeloid leukaemia & recurrent Hodgkin's disease.

35- Relation between the type of procedure and the patient's life

			Allogeneic & autologous stem-cell recepients		
			Allogeneic stem cell recepient	Autologus stem-cell recepient	Total
Current situation	Alive	Count	2	11	13
		Percent	33.3%	52.4%	48.1%
	Died	Count	4	10	14
		Percent	66.7%	47.6%	51.9%
Total		Count	6	21	27
		Percent	100.0%	100.0%	100.0%

CHI = 0 .678 P> 0.05
Odd's ratio = 0.455



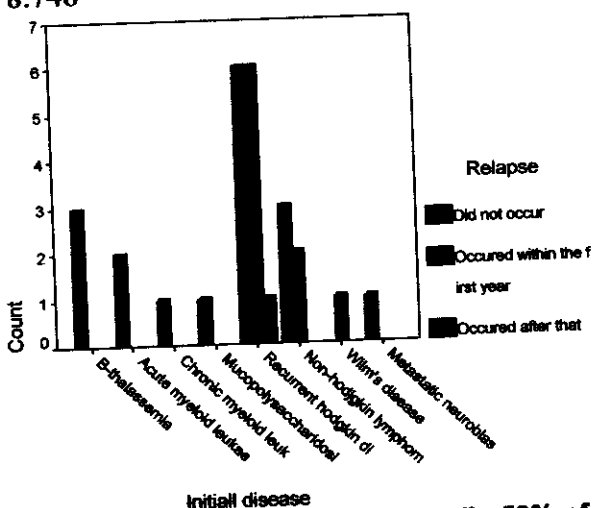
A higher mortalities were observed among allogeneic group 66.7%.

36- Relation between initial disease and relapse

			Relapse among autologous group			
			Did not occur	Occured within the first year	Occured after that	Total
Original disease	B-thalassemia	Count	3			3
		% within Original disea	100.0%			100.0%
		% of Total	11.1%			11.1%
	Acute myeloid leukaem	Count	2			2
		% within Original disea	100.0%			100.0%
		% of Total	7.4%			7.4%
	Chronic myeloid leukae	Count	1			1
		% within Original disea	100.0%			100.0%
		% of Total	3.7%			3.7%
	Mucopolysaccharidosis	Count	1			1
		% within Original disea	100.0%			100.0%
		% of Total	3.7%			3.7%
	Recurrent hodgkin disea	Count	6	6	1	13
		% within Original disea	46.2%	46.2%	7.7%	100.0%
		% of Total	22.2%	22.2%	3.7%	48.1%
	Non-hodjgkin lymphom	Count	3	2		5
		% within Original disea	60.0%	40.0%		100.0%
		% of Total	11.1%	7.4%		18.5%
	Wilm's disease	Count		1		1
		% within Original disea		100.0%		100.0%
		% of Total		3.7%		3.7%
	Metastatic neuroblaston	Count	1			1
		% within Original disea	100.0%			100.0%
		% of Total	3.7%			3.7%
Total		Count	17	9	1	27
		% within Original disea	63.0%	33.3%	3.7%	100.0%
		% of Total	63.0%	33.3%	3.7%	100.0%

Chi square = 8.748

P> 0.05

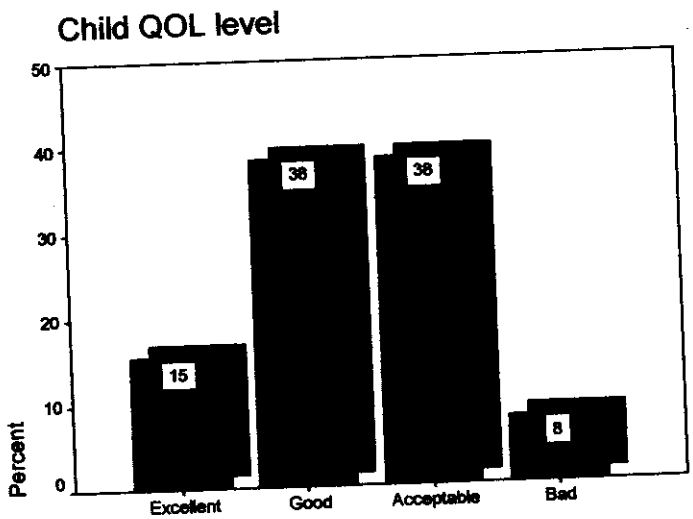


Higher relapse rates were observed in Hodgkin's disease (in 53% of cases) and in non Hodgkin lymphoma (in 40% of cases).

- **Study of impact of stem cell transplantation on health related quality of life.**

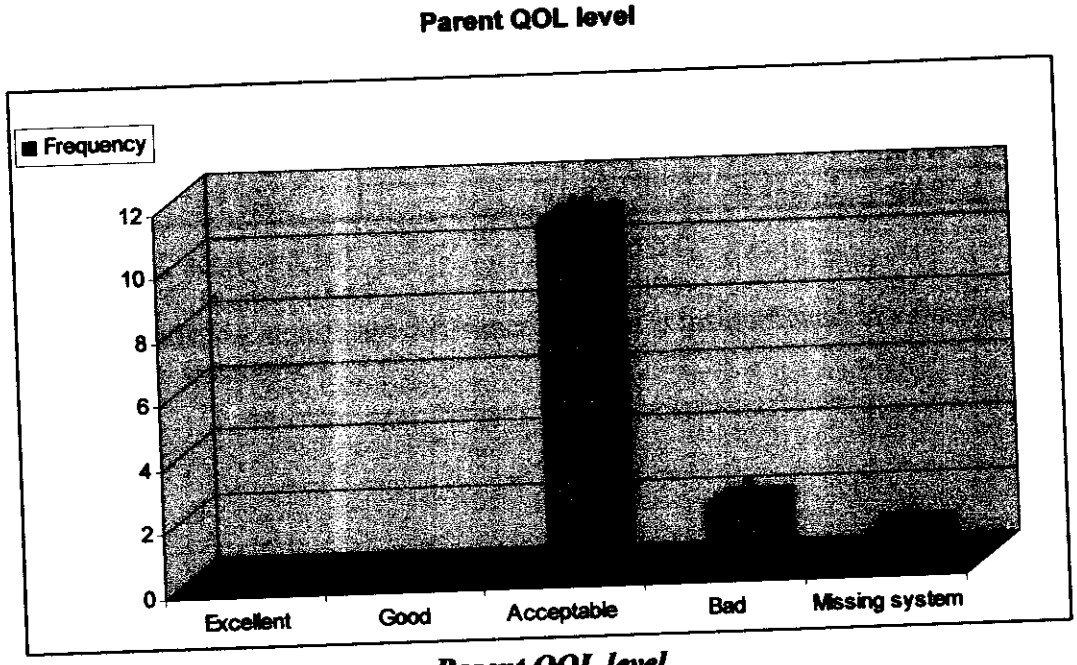
37- Frequency distribution of child QOL score according to different levels

		Frequency	Percent
Valid	Excellent	2	7.4
	Good	5	18.5
	Acceptable	5	18.5
	Bad	1	3.7
	Total	13	48.1
Missing	System	14	51.9
Total		27	100.0



38- Frequency distribution of parent QOL score according to different levels

		Frequency	Percent
Valid	Acceptable	11	40.7
	Bad	2	7.4
	Total	13	48.1
Missing	System	14	51.9
Total		27	100.0



Parent QOL level

Parents QOL scores were less than their children

41- Relation between initial disease and child QOL

child QOL / Original disease	Excellent		Good		Acceptable		Bad		Total	
	No	%	No	%	No	%	No	%	No	%
B-thalassemia					1	100.0			1	100.0
Acute myeloid leukaemia			1	50.0	1	50.0			2	100.0
Recurrent Hodgkin	1	12.5	3	37.5	3	37.5	1	12.5	8	100.0
Non-Hodgkin lymphoma	1	50.0	1	50.5					2	100.0
Total	2	15.4	5	38.5	5	38.5	1	7.6	13	100.0

Better scores were observed in Hodgkin's disease & non Hodgkin lymphoma.

42- Relation between initial disease and parent QOL

parent QOL / Original disease	Acceptable		Bad		Total	
	No	%	No	%	No	%
B-thalassemia	1	100.0			1	100.0
Acute myeloid leukaemia	2	100.0			2	100.0
Recurrent Hodgkin	6	75.0	2	25.0	8	100.0
Non-Hodgkin lymphoma	2	100.0			2	100.0
Total	11	84.6	2	15.4	13	100.0

The worst scores were observed in parent's of 2 cases with recurrent Hodgkin's disease who had multiple relapses.

43- Relation between type of procedure and child QOL

child **QOL** / **Type of procedure**	Excellent		Good		Acceptable		Bad		Total	
	No	%	No	%	No	%	No	%	No	%
Allogeneic					2	100.0			2	100.0
Autologous	2	18.1	5	45.5	3	27.3	1	9.1	11	100.0
Total	2	15.3	5	38.5	5	38.5	1	7.7	13	100.0

Smaller allogeneic group (2 cases) made the comparison not logic.

44- Relation between type of procedure and parent QOL

Parent **QOL** / **Type of procedure**	Acceptable		Bad		Total	
	No	%	No	%	No	%
Allogeneic	2	100.0			2	100.0
Autologous	9	81.8	2	18.2	11	100.0
Total	11	84.6	2	15.4	13	100.0

Smaller allogeneic group (2 cases) made the comparison not logic.