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MS CLINICAL LAB

KANCHIPURAM -631 501

044-27224541

Semen Analysis

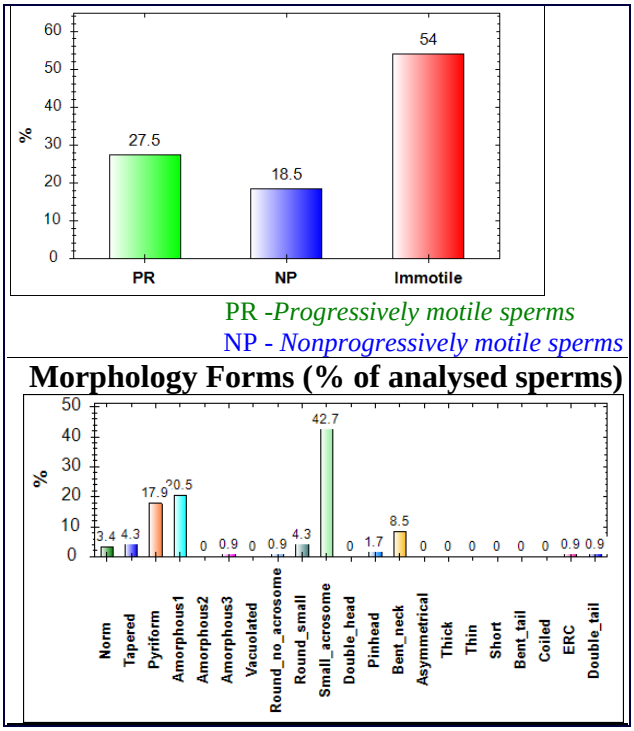
Results provided by CASA (Computer-Aided Sperm Analysis system)

Patient

Name	Mr. DURAISAMISHA DHAWLADHSHA	Age	31	SEX / MALE	
	Dr. DIVYA.MS(OG).,	Patient ID	16/12/241	Date of sample	10-Dec-16

Sample Description

	ACTUAL	NORM
Sexual Abstinence/Days	4	3-4 days
Any Ejaculate Spilt	No	
Liquefaction After (min)	15	30-60 min
Volume,(ml)	2.5	1.5-6.0 ml
Colour	GREYISH OPAQUE	
Place of collection	EMM ESS LAB	
Fructose	Positive	
Time Of Collection	08.30 AM	
Time Of Arrival In Lab	08.31 AM	
Time OF Examination	09.25 AM	
Viscosity	NORMAL	
Agglutination	NO	
pH	7.5	7.2-7.8



PR -*Progressively motile sperms*

NP - *Nonprogressively motile sperms*

Morphology Forms (% of analysed sperms)

Analysis Results

Parameters	Values	Status	WHO NORM
Concentration, M/ml	75.6	Passed	> 15 M/ml
Total number, M (Count / ml x Volume)	189	Passed	> 39 M
Progressive motility (PR), %	27.5	Failed	> 32 %
Total motility (PR+NP), %	46	Passed	> 40 %
Vitality	70	Passed	> 58 %
Morphology, normal forms, %	3.4	Failed	> 4 %
DNA Non Fragmentation %	48	Fair	> 50%

Non-Sperm Cells

White blood cells, M/ml	0	Immature germ cells, M/ml	0

Greater than 1 million/ml is significant

Conclusion	AsthenoTeratozoospermia
Comment	Asthenozoospermia - Percentages of both progressively motile (PR) normal spermatozoa below the lower reference limits .Teratozoospermia - Percentages of Morphologically normal spermatozoa below the lower reference limits. Count - Total number of spermatozoa and Vitality equal to or above the lower reference limits

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Sperm Motility Analysis

Results provided by CASA (Computer-Aided Sperm Analysis system)

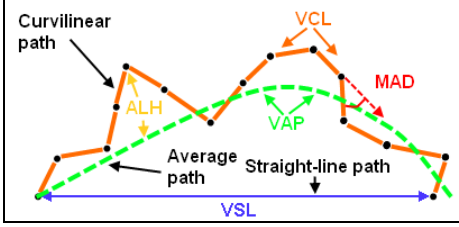
Name Mr.	DURAISAMISHA DHAWLADHSHA	Date of sample	10-Dec-16		

Motility Classes

A - fast, progressive. B- slow, progressive. C - nonprogressive. D - immotile. A+B= progressive motiltiy. A+B+C= total motilitiy.

Concentration, M/ml	75.6	**A+B, %**	27.5	**A+B+C, %**	46
Class A, %	21.5	**Class A, M/ml**	16.2	**Class A, total**	40.5
Class B, %	6	**Class B, M/ml**	4.53	**Class B, total**	11.3
Class C, %	18.5	**Class C, M/ml**	13.9	**Class C, total**	34.8
Class D,%	54	**Class D, M/ml**	40.9	**Class D, total**	102

Sperm Movement Parameters



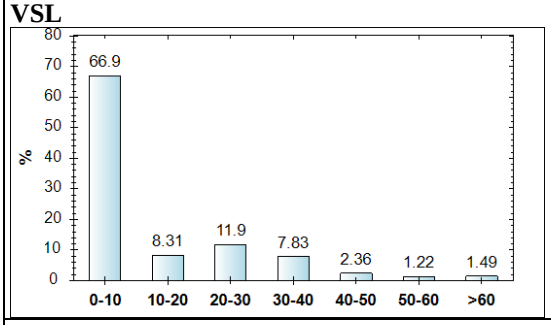
VSL, straight-line (rectilinear) velocity.
VCL, curvilinear velocity. A measure of cell vigour.
VAP, average path velocity.
ALH, amplitude of lateral head displacement.
LIN, linearity. The linearity of a curvilinear path, VSL/VCL.
STR, straightness. Linearity of the average path, VSL/VAP.
WOB, wobble. VAP/VCL.
BCF, beat-cross frequency. The average rate at which the curvilinear path crosses the average path.
MAD, mean angular displacement.

Mean Values by Classes

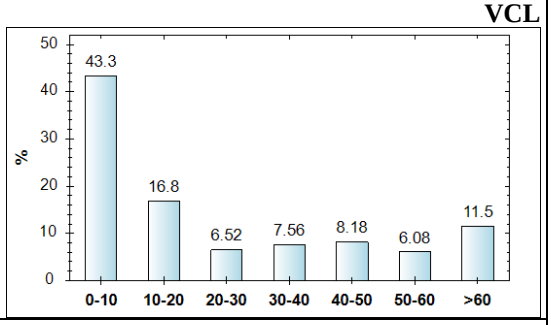
Velocity Unit -µm/sec

	VCL	VSL	VAP	ALH	BCF	LIN	STR	WOB	MAD
Class A	58	34	41	1	4.9	0.59	0.73	0.73	53
Class B	30	14	21	0.81	4.8	0.5	0.64	0.69	72
Class C	35	14	20	0.79	4.1	0.35	0.35	0.62	78
Class D	6.4	0.53	3.2	0.54	2.2	0.12	0.18	0.71	111

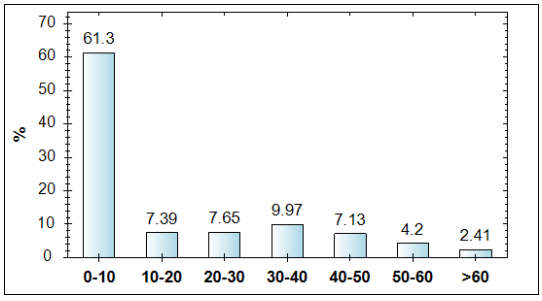
VSL



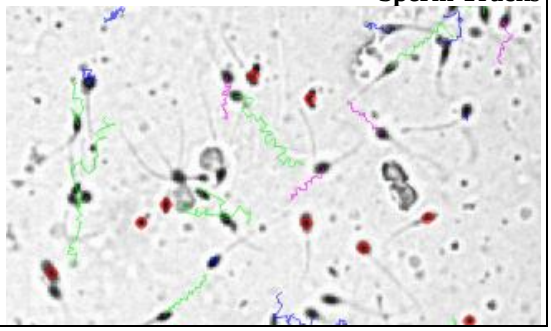
VCL



VAP



Sperm Tracks



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Sperm Morphology Analysis

Results provided by CASA (Computer-Aided Sperm Analysis system)

Name **Mr.**	DURAISAMISHA DHAWLADHSHA	Date of sample	10-Dec-16		

Morphology, normal forms, %	**3.4**	Failed	**> 4 %**

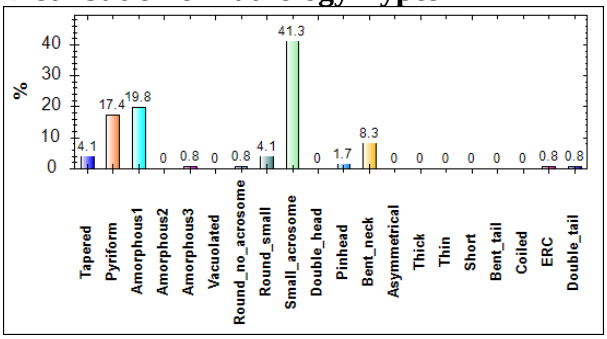
Note: Sperms can have One or more defects so it will reflect in the morphology percentage.

Head Defects		**Total number of Abnormal sperms, %**	**Total No. of Sperm abnormalities %**
Tapered		4.3	4.1
Pyriform		17.9	17.4
Round, no acrosome		0.9	0.8
Round, small		4.3	4.1
Amorphous, type 1		20.5	19.8
Amorphous, type 2		0	0
Amorphous, type 3		0.9	0.8
Vacuolated		0	0
Small acrosome		42.7	41.3
Double head		0	0
Pinhead		1.7	1.7
Neck Defects			
Bent neck		8.5	8.3
Asymmetrical		0	0
Thick insertion		0	0
Thin		0	0
Tail Defects			
Short		0	0
Bent		0	0
Coiled		0	0
Double Tail		0.9	0.8
ERC		0.9	0.8

		WHO NORM
TZI, Teratozoospermia index (Number of abnrmalities/Total number of abnormal sperms)	1.07	**0.74 - 1.58**

FFE - *elliptical form factor. Proximity to ellipsis.*

Distribution of Pathology Types



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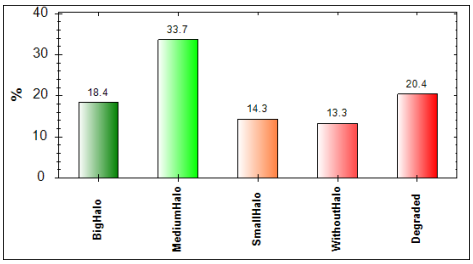
Semen DNA FRAGMENTATION Analysis

Results provided by CASA (Computer-Aided Sperm Analysis system)

Name Mr.	DURAISAMISHA DHAWLADHSHA	Date of sample	10-Dec-16		

DNA fragmentation index	48%	FAIR	> 50 %

PARAMETERS	VALUES	STATUS
Big Halo	18.4	Without Fragmentation
MediumHalo	33.7	Without Fragmentation
SmallHalo	14.3	With Fragmentation
Degraded	20.4	With Fragmentation
WithoutHalo	13.3	With Fragmentation



DFI	48%	Refer the Below Ranges

DNA Fragmentation Index (%DFI; % sperm cells containing damaged DNA)

≤ 30% DFI = Excellent sperm DNA integrity

30 to 40% DFI = Good sperm DNA integrity

40 to 50% DFI = Fair sperm DNA integrity

> 50% DFI = Poor sperm DNA integrity

Note: The above values relate to natural and IUI conceptions

What is the Sperm DNA fragmentation?

Dedecting the deferent levels (%) of Genitic (DNA) Integrity (ie) Fragmentation (Damage) inthe sperm cells.

The genetic integrity of the spermatozoan is essential for normal embryo development. A high level of DNA fragmentation in sperm cells may represent a cause of male infertility that conventional examinations - sperm concentration, motility analysis, morphology assessment - cannot detect. Results reported in the scientific literature show regardless of the assisted reproductive technology used, elevated levels of DNA fragmentation above the critical threshold will significantly compromise the possibility of a successful pregnancy

Causes of Sperm DNA Fragmentation

A major causative factor for sperm DNA damage is oxidative stress. Other factors include abnormalities in the regulation of apoptosis, or defects in topoisomerase activity. Increased sperm DNA fragmentation is also associated with:

1.Infection
2.Elevated testicular temperature
3.Exposure to environmental
4.Leucocytospermia
5.Diet & Stress
6.Occupational pollutants
7.Sperm cytoplasmic droplets
8. Drug use
9. Advanced age
10.Febrile illness
11.Cigarette smoking
12.Varicocoele

Indications for male patients who may benefit from the Test

1.Unexplained infertility
2.Poor blastocyst development
3.Recurrent miscarriage in partner
4.Poor semen parameters
6. Arrested embryo development
7.Multiple failed IVF/ICSI treatment
4.Advanced age varicocoele
5.Exposure to harmful substances

Treatmen& Further References:

http://www.tdlpathology.com/services-divisions/tdl-andrology/sperm-dna-fragmentation
https://www.fertilityauthority.com/articles/fertility-clinic-testing-sperm-dna-fragmentation

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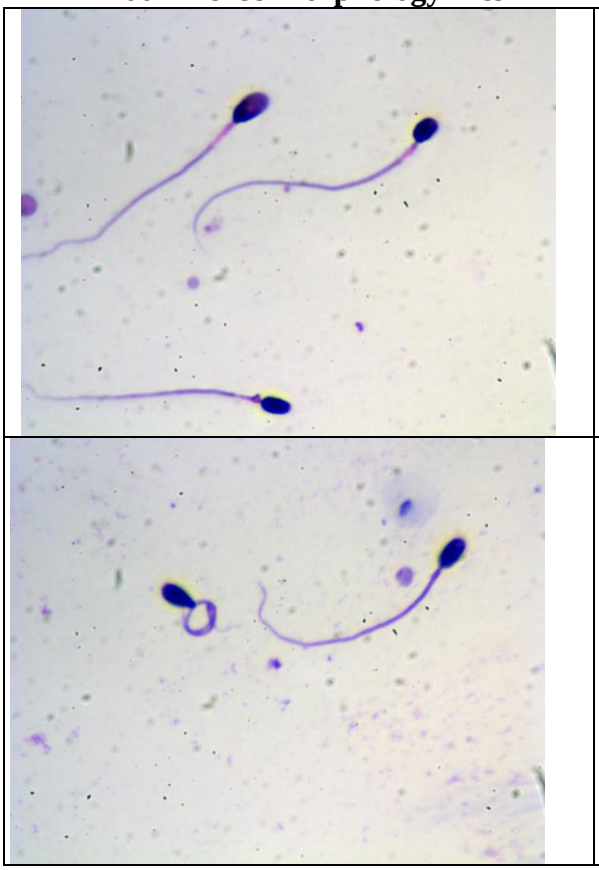
Sperm Morphology & Vitality Pictures

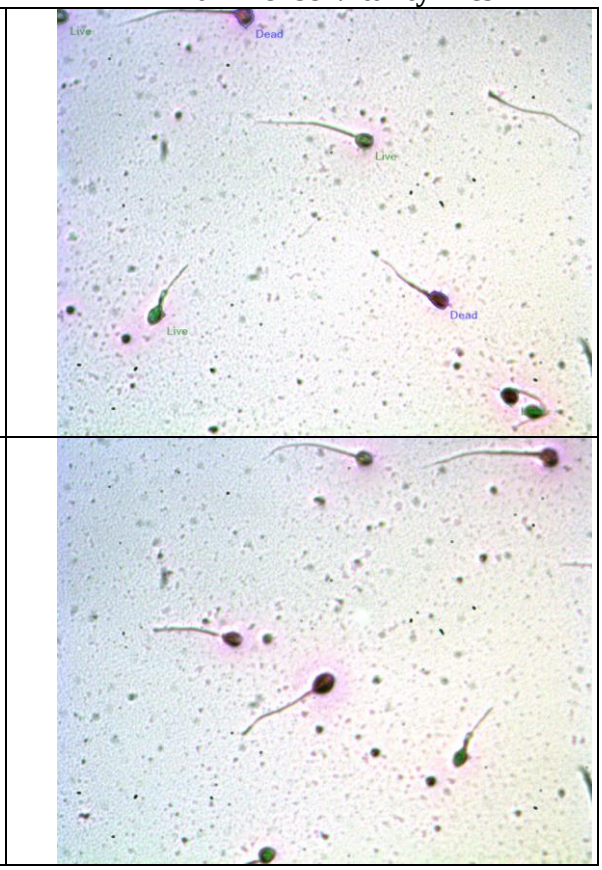
Results provided by CASA (Computer-Aided Sperm Analysis system)

Name Mr.	DURAISAMISHA DHAWLADHSHA	Date of sample	10-Dec-16		

100X Lense Morphology Pics



40X Lense Vitality Pics



40X Lense DNA Fragmentation Pics