

Case ID : 2400131583/10215102  
Name : MR. DHIRAJ PRASAD  
Sex/Age : Male/33 Years  
Bill. Loc. : Suman path lab  
Ref. By :  
Indication :

Sample Type : SEMINAL FLUID  
Date & Time Collected : 22-May-2024 12:00 AM  
Date & Time Received : 23-May-2024 04:41 PM  
Date & Time Reported : 27-May-2024 07:21 PM  
Report Version : 1

## SPERM CHROMATIN DISPERSION ANALYSIS REPORT

**Specimen Description:** Sample quality is optimum for the test.

### METHOD:

Sperm cells were chemically treated and their nucleoids observed under brightfield microscopy. These sperm nucleoids on the slide were grouped based on comparison of the halo radius (r) to the diameter of the core (d) into four of the following patterns:

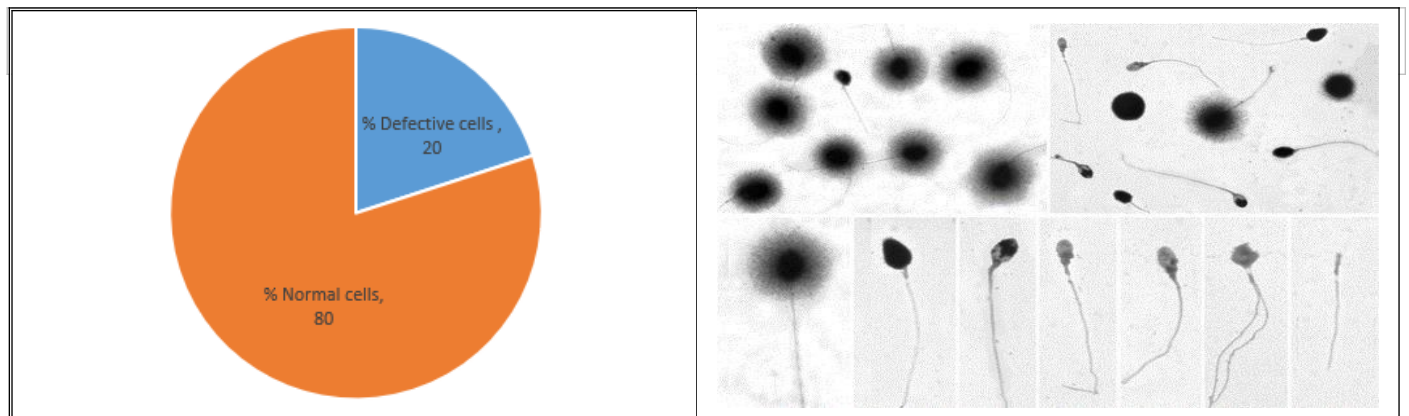
1. Nucleoid with large-sized haloes ( $r > d$ )
2. Nucleoid with medium-sized haloes ( $r = d$ )
3. Nucleoid with very small-sized haloes ( $r < d$ )
4. Nucleoid with no halo (only core of nucleoid present).

One hundred spermatozoa were assessed in each slide and the percentage of nucleoids belonging to each of the four patterns was noted. Those with absent haloes and small-sized haloes were grouped under spermatozoa with the presence of DNA damage, and those with medium-sized and large-sized haloes were grouped under spermatozoa without DNA damage.

Sperm DNA fragmentation index (SDFI) was calculated using the formula:  $SDFI = 100 \times \frac{\text{number of sperms with DNA damage}}{\text{number of sperms counted}}$ .

### RESULTS

No. of cells with Large Halo (LH) "A"	No. of cells with Medium Halo [MH] "B"	No. of cells with Small Halo (SH) "C"	No. of cells without any Halo (WH) "D"	% of cells with fragmented DNA $(C+D)/(A+B+C+D) \times 100$
50	30	10	10	20



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**COMMENT:** DNA fragmentation is seen in 20 % of the sperm cells analyzed.

### **INTERPRETATION**

#### **Range of DNA Fragmentation Index (DFI) i.e. sperm cells containing damaged DNA**

**<15% DFI:** Excellent to Good sperm DNA integrity

**16-25% DFI:** Good to Fair sperm DNA integrity

**26-50% DFI:** Fair to Poor sperm DNA integrity

**>50% DFI:** Very Poor sperm DNA integrity

### **BIBLIOGRAPHY**

1. Fernández JL, Muriel L, Goyanes V, Segrelles E, Gosálvez J, Enciso M, LaFromboise M, De Jonge C. Simple determination of human sperm DNA fragmentation with an improved sperm chromatin dispersion test. Fertility and Sterility. Vol 84, Issue 4, P833-842: 2005.  
DOI:<https://doi.org/10.1016/j.fertnstert.2004.11.089>
2. Boushaba S, Belaaloui G. Sperm DNA fragmentation and standard semen parameters in Algerian infertile male partners. World J Mens Health. 2015 Apr;33(1):1-7. doi: 10.5534/wjmh.2015.33.1.1. Epub 2015 Apr 23. PMID: 25927056; PMCID: PMC4412002.

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Dr.Nirmal A. Vaniawala  
MD (Path. & Bact.)



Dr. Salil Vaniawala  
M.Sc Ph.D.(Huan Genetics)  
Consulting Geneticist

Dr.Pratap N. Mukhopadhyaya  
Ph.D(Sc.)