Serological co-relation with diagnosis and biochemical co-relation with severity in 86 admitted dengue cases

RSC Sarker, K. Nazimuddin, A.K.M Shaheen, M Rahman, WMM Haque

Speaker : Dr. Rene Suzan

Criteria of selection:

1. Selection was on the basis of clinical suspicion
2. Platelet count, WBC, Hct, anti-dengue Ab were done to ensure diagnosis
3. Anti- dengue Ab positive cases

Diagnosis

1. Suspected Dengue : Clinical
2. Probable dengue : Clinical + Anti-dengue Ab
3. Confirmatory : by virus isolation

Aims and objectives:

This study was designed to evaluate the correlation of serology with diagnosis and also to correlate biochemical changes and severity of dengue infection.

Materials and methods

Study place:

The study was carried out in the Department of Internal Medicine, Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM) hospital, Dhaka

Study period:

86 cases of dengue admitted in BIRDEM during the period of January 2006 to December 2009.

Biochemical parameters:

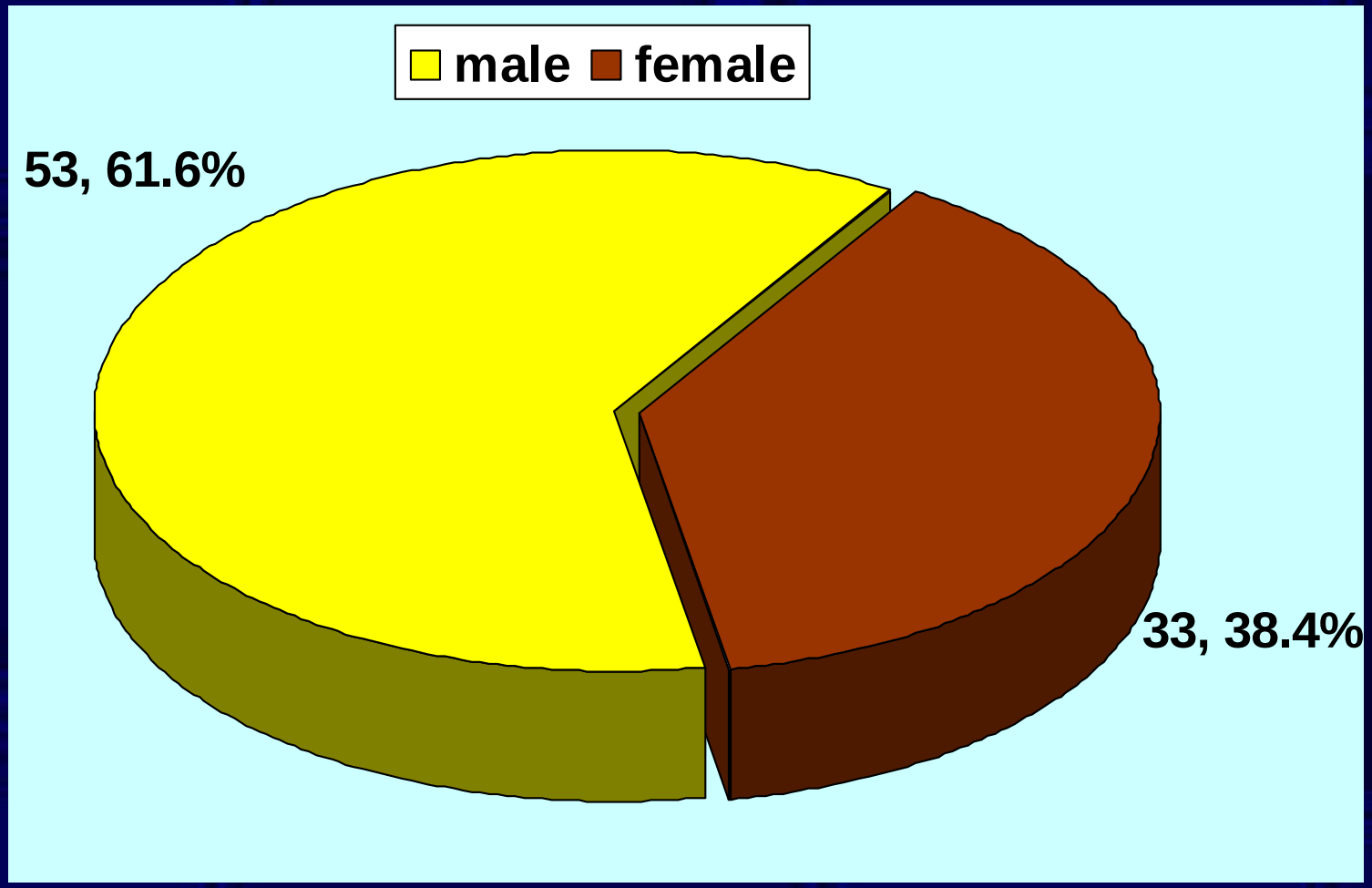
- FBS, ABF
- Hb, TC, ESR
- s. creatinine,
- S. billirubin, SGPT & SGOT
- S. Calcium
- Anti Dengue IgM and anti Dengue IgG

Data collection, data entry, analysis & output:

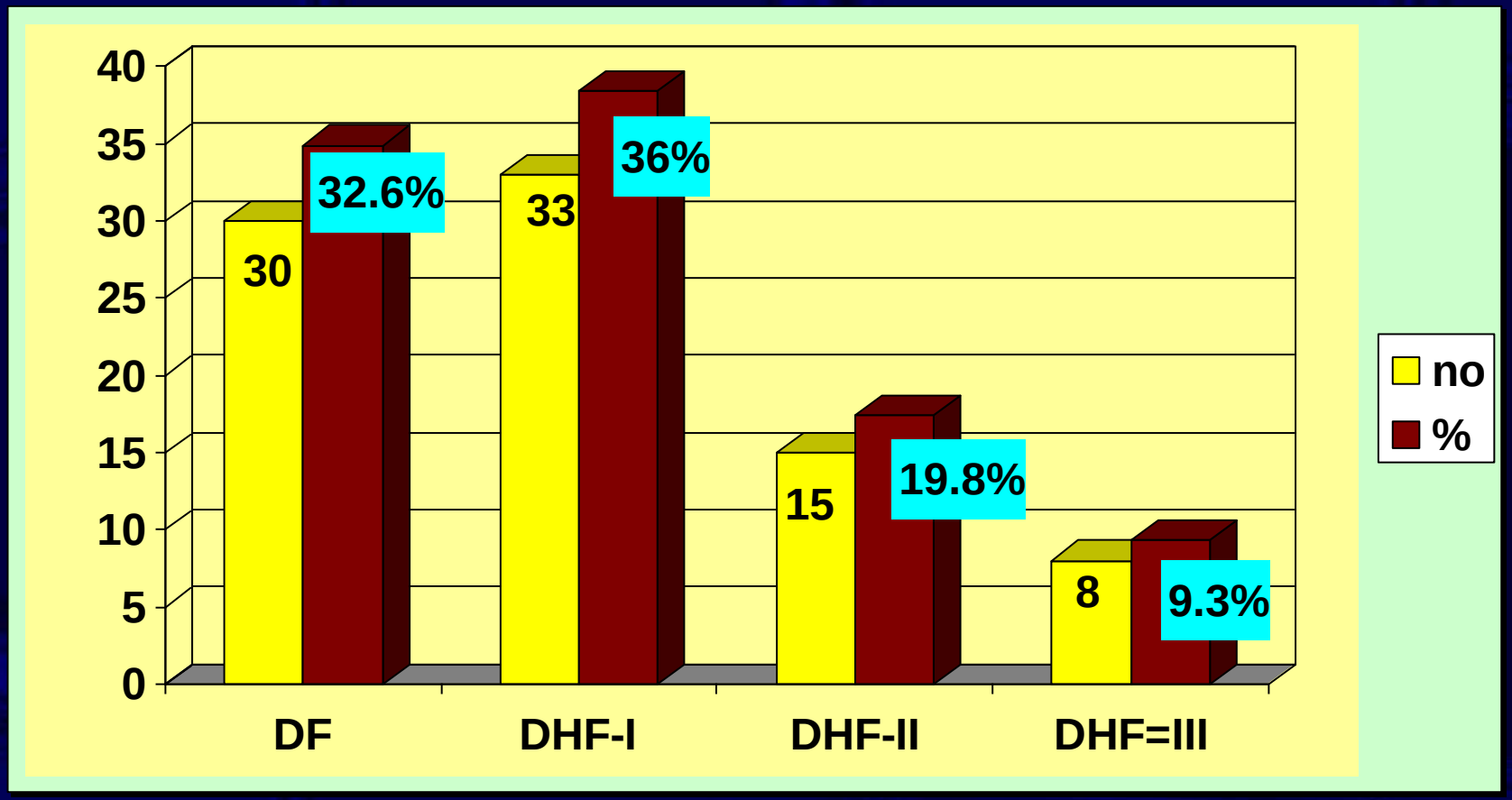
Data entry and analysis were done using SPSS for windows version 11.0. Output of data and graphical representation were done using Microsoft office chart.

Results

Distribution acc to sex
Total= 86 cases



Distribution acc to diagnosis



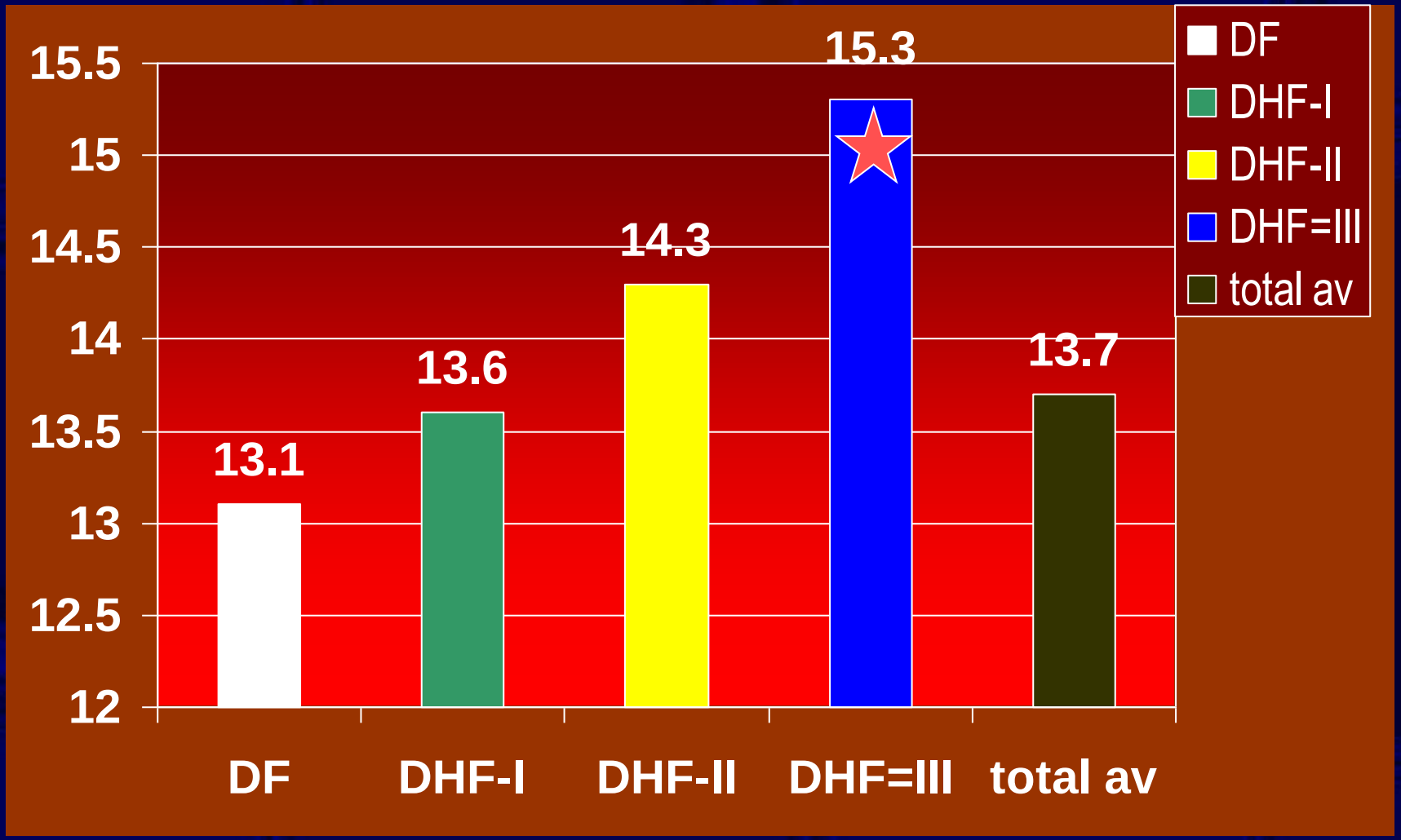
Relation with B. Sugar

We calculated the arithmetic mean of F and ABF using SPSS and co-related with all 4 types of dengue.

Approx. 50% of them had glucose intolerance.

Average fasting was 7.13 (±2.9) and avg. after meal was 10.14 (±4.21).

Relation with Hb (Mean g/dl)

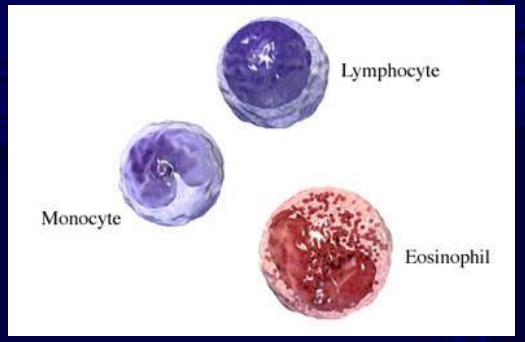


Total WBC count

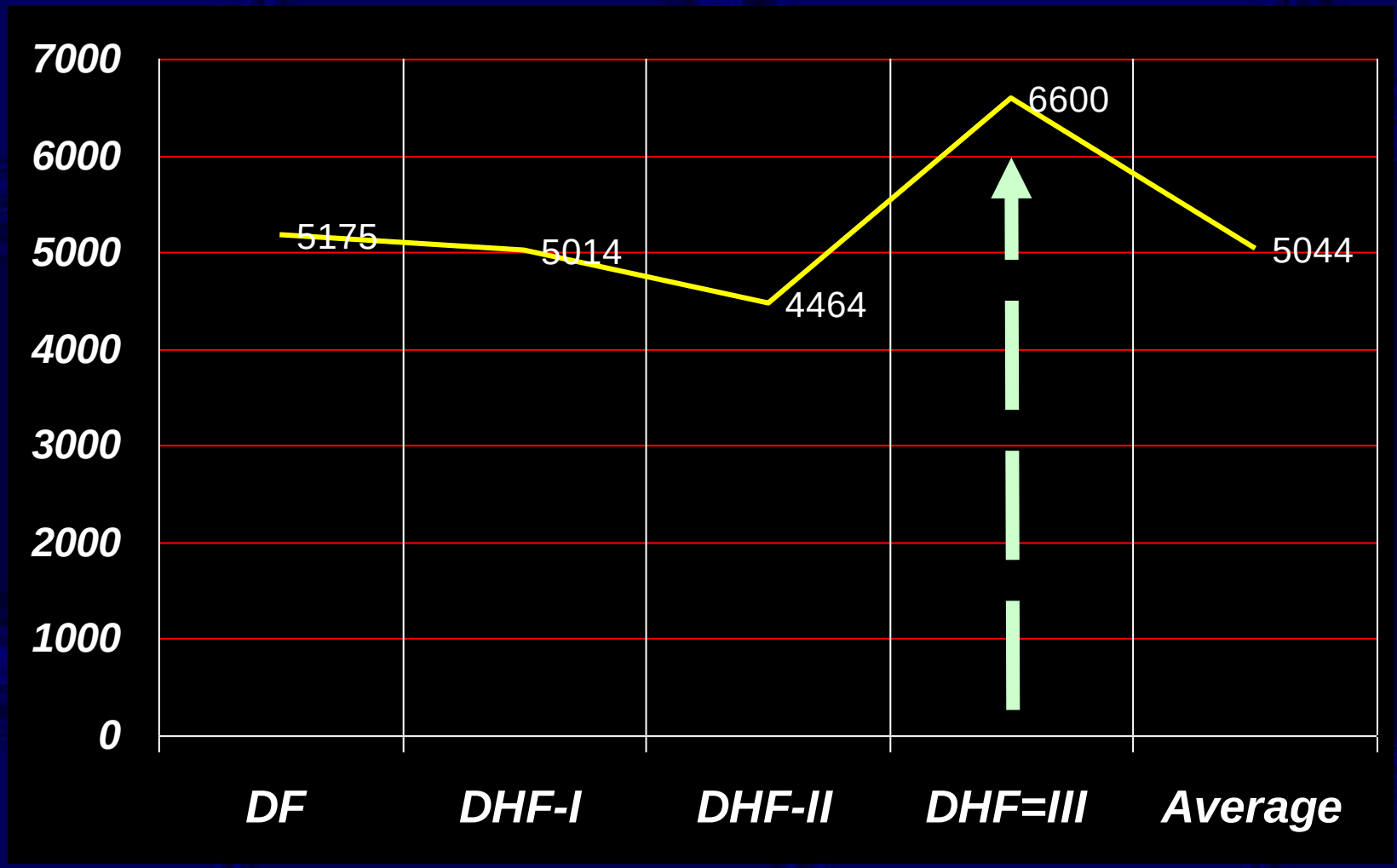
Lowest: 1200/cmm

Highest: 12800/cmm

Average: 5044/cmm



Total WBC count (mean/cmm)

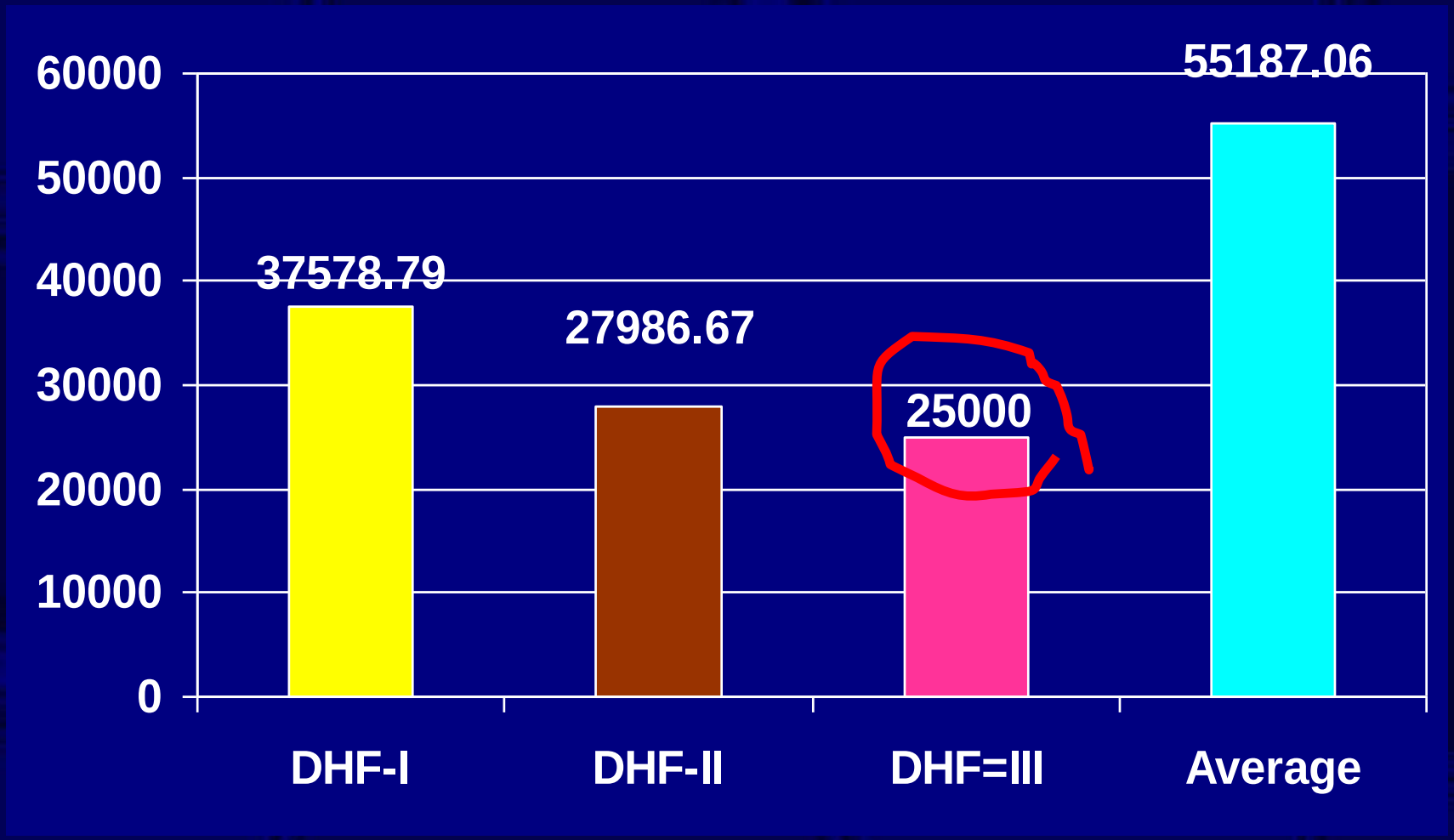


Platelet and PCV

Lowest PC: 7000/cmm (DHF-II)

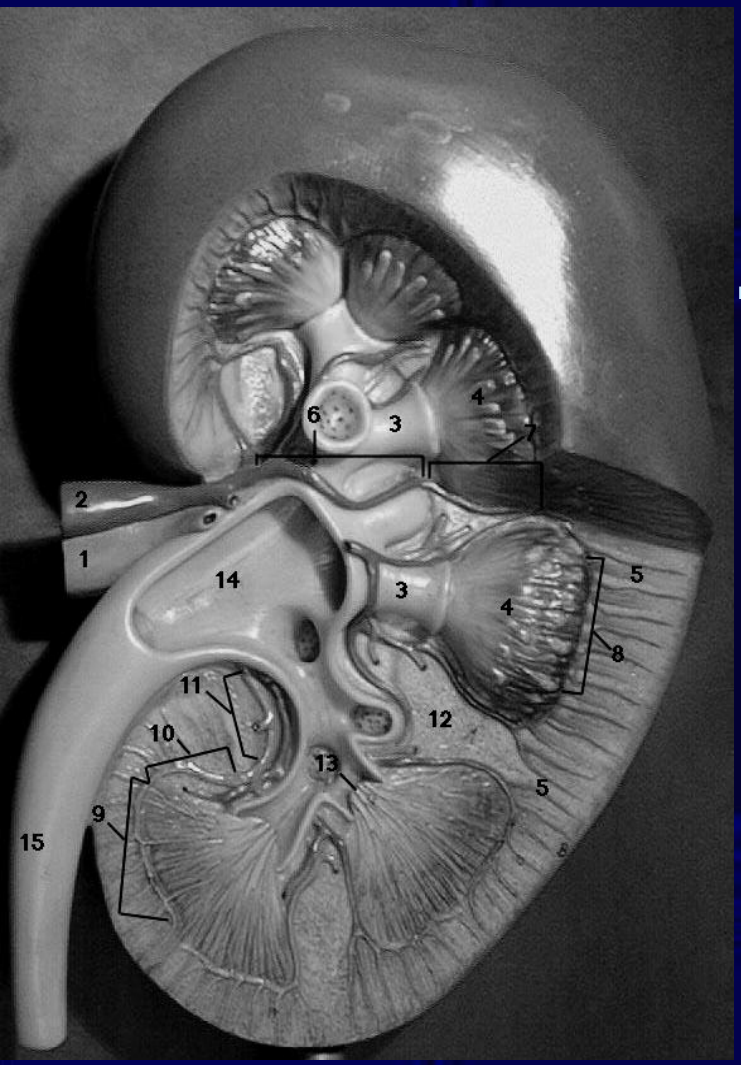
Highest PCV/Hct: 53% (DHF-III)

Platelet (mean/cmm)



ESR

- Lowest: 2 mm in 1st hr (DHF-III)
- Highest: 105 (DHF-II)
- Av: 22.65

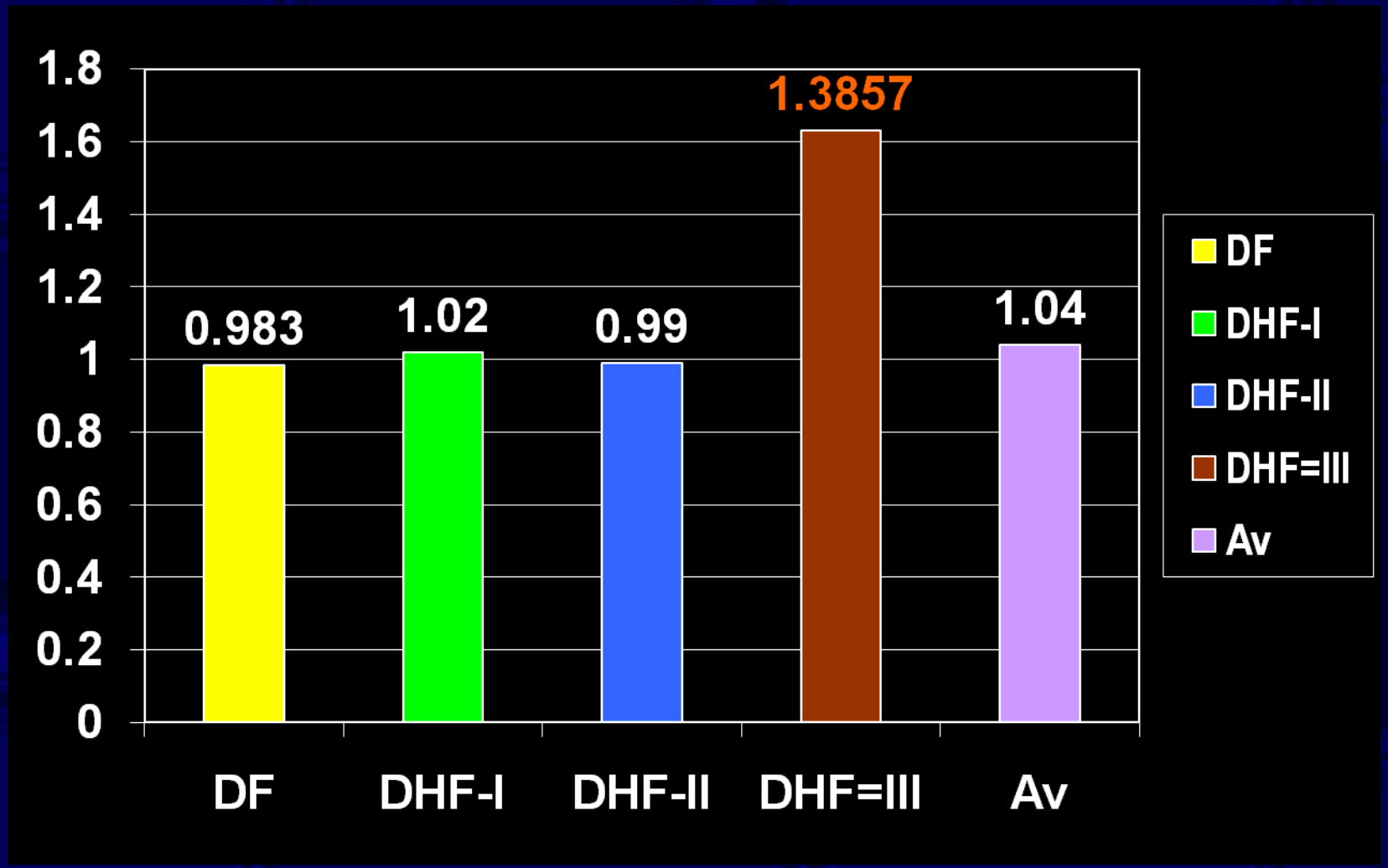


S. Creatinine:

>normal in just 4%

do not correlate

S. creatinine



SGPT, SGOT, S. bilirubin

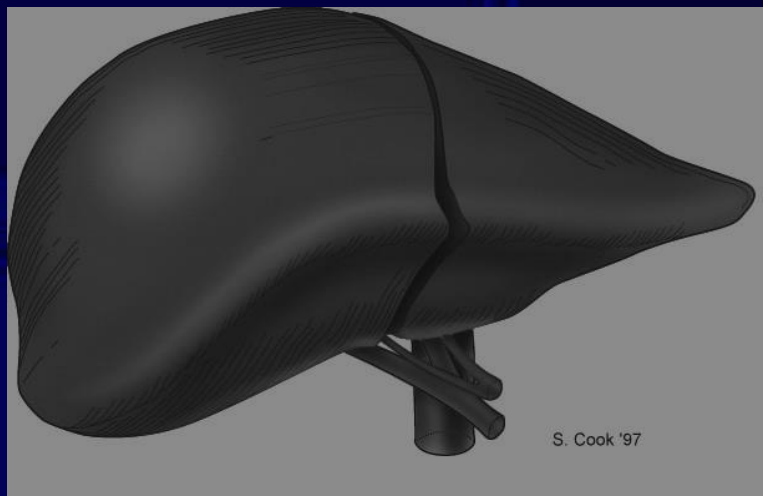
SGPT >40 IU/L in 59.3%

SGOT >40 IU/L in 65.7% of the cases

P value (both SGPT & SGOT): 0.001 (significant)

S. Bilirubin >2 mg/dl in only 3 cases!

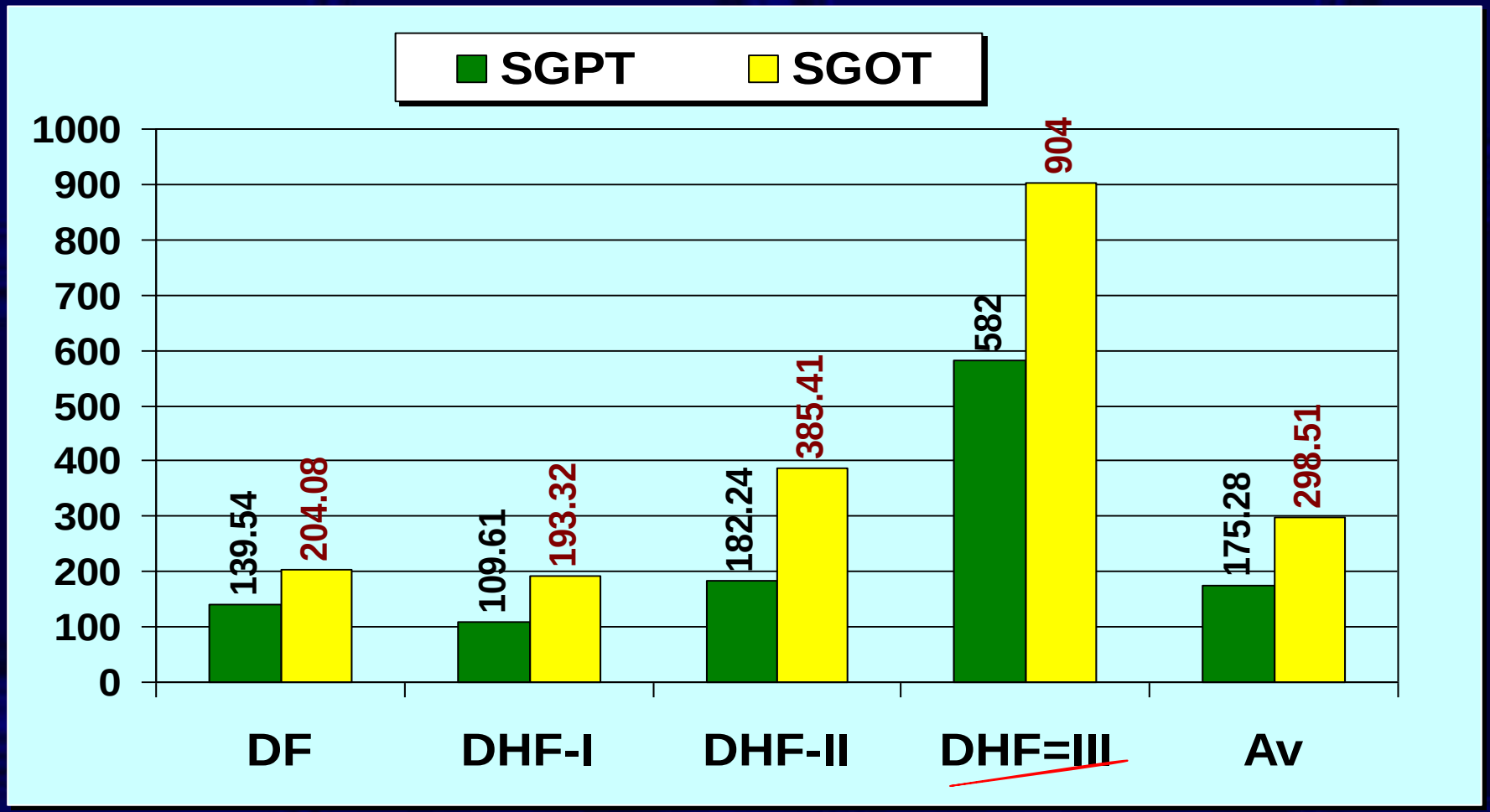
Average mean was 0.82 mg/dl (±0.48)



SGPT, SGOT, S. bilirubin

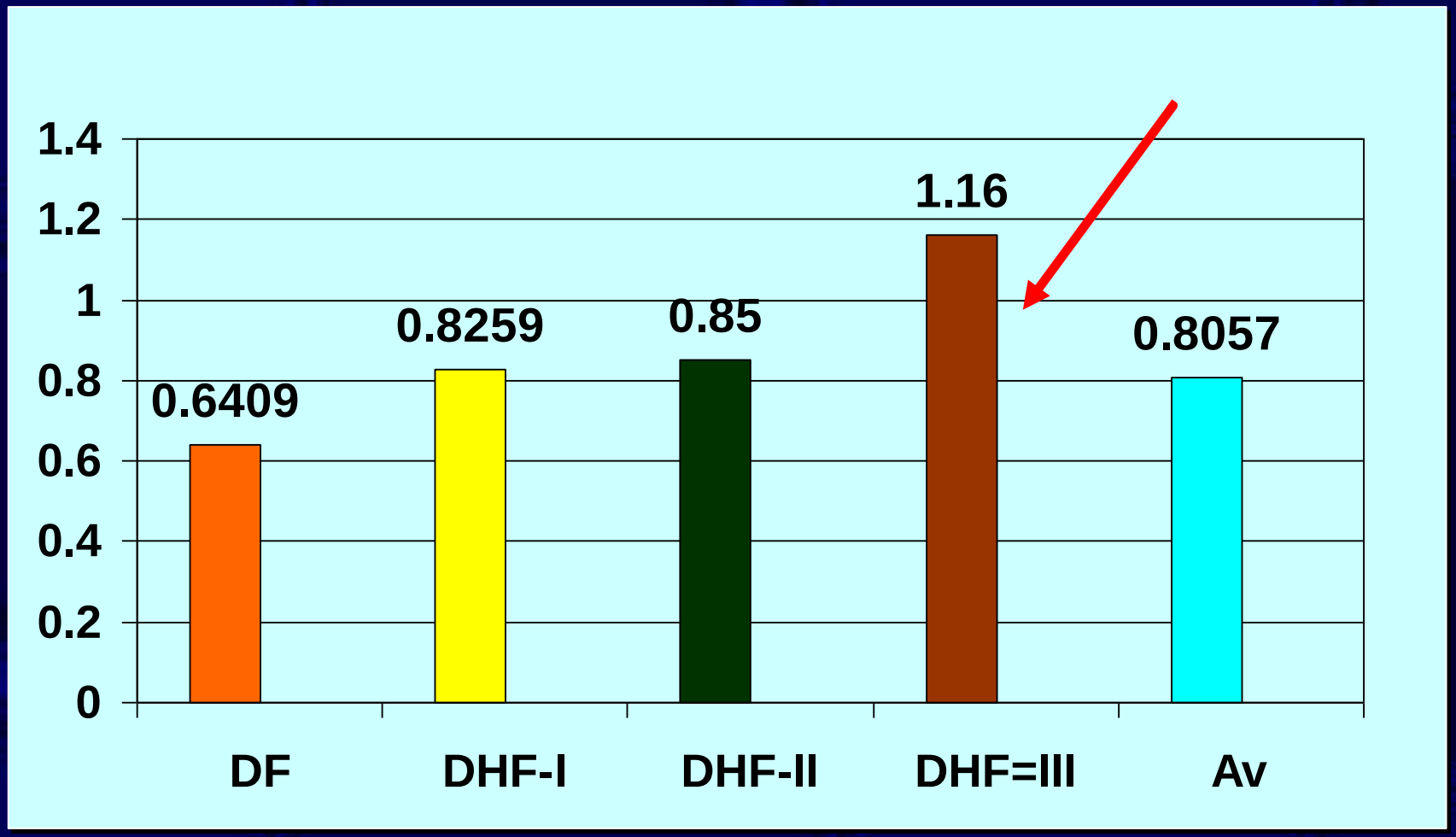
Highest found	Value (IU/L)	Diagnosis
SGPT	2645	**DHF-III**
SGOT	3320	**DHF-III**
S. bilirubin	2.8	**DHF-II**

SGPT & SGOT



Relating types of Dengue- p value:
In SGPT=0.024 and in SGOT=0.005

S. Bilirubin (mean)



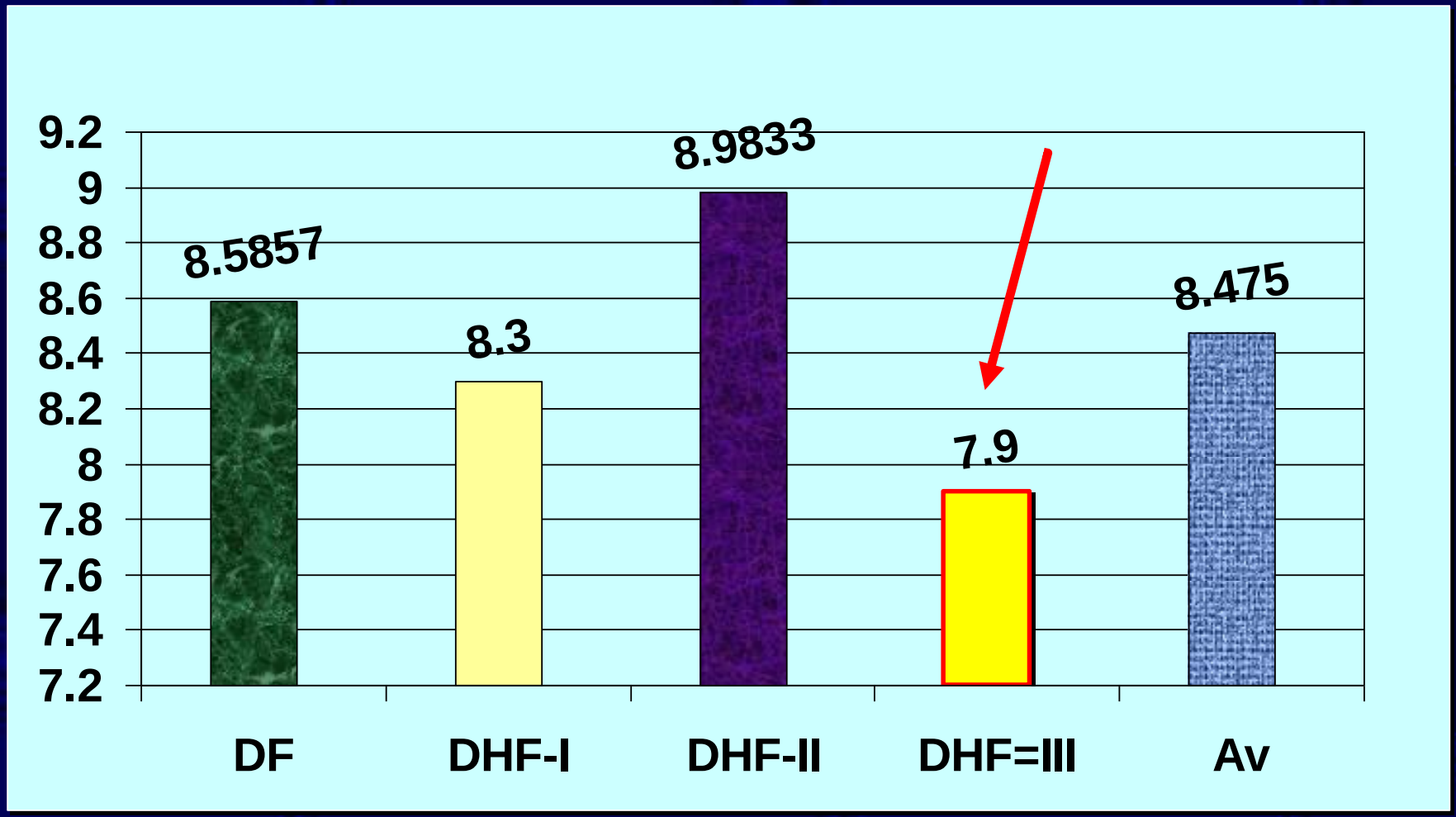
p value: not sig

S. Calcium

Highest Ca found is : 9.8 mg/dl

Lowest : 6.8

S. Calcium (mean mg/dl)



Significance: very high [p= .002]

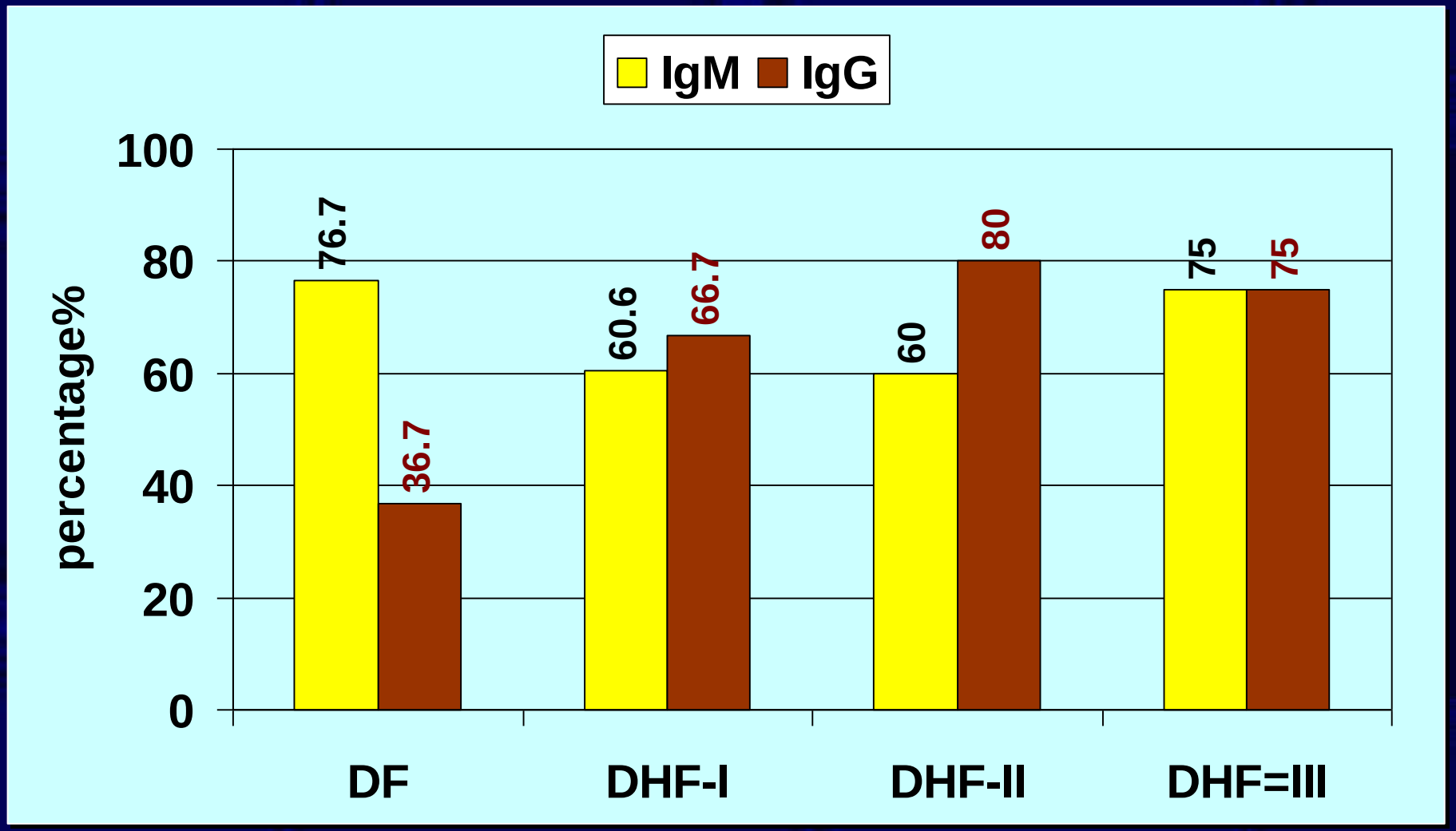
Anti-Dengue Abs

- Done on all cases

Among them:

- IgM +ve= 58(67.4%)
- IgG +ve= 51 (59.3%)
- Both IgM+IgG +ve = 25 cases (29%)

Positive IgM and IgG cases (%)



Inference

- S. Calcium found to be low all over and sp. In DHF-III
- In DHF-III: There is marked haemoconcentration with low ESR
- S. Urea and creatitnine both were raised in DHF-III
- Both SGPT and SGOT were raised in all cases sp. DHF-III and SGOT>SGPT universally. S. bilirubin was not increased so much compared to the liver enzymes.
- Anti Abs co-relate with diagnosis in DF and DHF-III but not in all cases.

Some valuable websites that always provide us information

Conclusion

We doctors are more acquainted in dengue diagnosis now. But determining the severity is sometimes very deceitful. To overcome the situation we have shown that Hb, SGOT, SGPT, TC, s. Ca, S. urea and creatinine can aid to identify the severity.

Anti- dengue Ab are not bullet proof evidence in diagnosis so far we studied. But they have some particular relation relating severity. We hope that with this on going study in future we will be able to provide you the precise outcomes.

Thank you all for hearing me patiently