

CLINICAL LABORATORY SERVICES IN 2006

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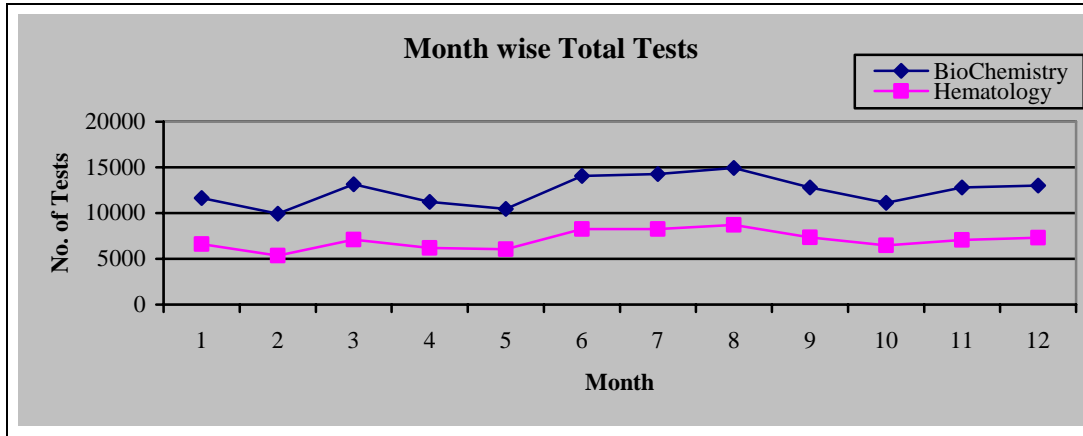
Proper treatment starts with correct diagnosis. Clinical laboratory has crucial role in achieving right diagnosis ultimately leading to best treatment to the patient. To achieve this goal our slogan as in previous years was “Quality for forever with high intension, sincere effort, intelligent direction and skillful execution.

Clinical laboratory services in SGNHC lab is strengthening day by day for quality outcome. In 2006 as well, we were sincerely dedicated for the best possible service to our patients. We want to reiterate our commitment towards better service within available technology in the days ahead.

Panel Wise Test of 2006

| Month | Microbiology | Hematology | Coagulation | Biochemistry | Serology | Blood Donors |
|----------------------|--------------|--------------|--------------|---------------|--------------|--------------|
| Poush (Dec-Jan) | 83 | 6596 | 920 | 11637 | 1911 | 200 |
| Magh (Jan-Feb) | 83 | 5348 | 716 | 9917 | 1618 | 209 |
| Falgun (Feb-Mar) | 117 | 7083 | 732 | 13148 | 1836 | 146 |
| Chaitra (Mar-Apr) | 98 | 6200 | 788 | 11215 | 1804 | 250 |
| Baisak (Apr-May) | 67 | 6066 | 736 | 10459 | 1440 | 143 |
| Jestha (May-June) | 81 | 8269 | 951 | 14055 | 2321 | 272 |
| Asar (June-July) | 105 | 8254 | 941 | 14264 | 2160 | 203 |
| Shrawan (Jul-Aug) | 144 | 8714 | 943 | 14947 | 2202 | 214 |
| Bhadra (Aug-Sep) | 99 | 7329 | 798 | 12807 | 2005 | 198 |
| Asoj (Sept-Oct) | 87 | 6485 | 684 | 11119 | 1705 | 160 |
| Kartik (Oct-Nov) | 117 | 7048 | 859 | 12789 | 2023 | 243 |
| Mangsir (Nov-Dec) | 82 | 7309 | 1029 | 13007 | 2430 | 357 |
| Total | 1163 | 84701 | 10097 | 149364 | 23455 | 2595 |

Month-wise test plot of Hematology and Biochemistry



Average patients attending lab per day

| | Bacteriology | Hematology | Coagulation | Biochemistry | Serology | Blood Donors |
|-----------------|--------------|------------|-------------|--------------|----------|--------------|
| Patients Number | 3.18 | 232.05 | 27.66 | 409.21 | 64.26 | 7.10 |

What is New in 2006?

Micro-well ELISA based serological tests for screening HIV, HBsAg and HCV and hormonal assays (Free T₃, Free T₄ and TSH) were started in the year 2006 which is different from previously used less reliable and tedious quick methods. Although switch from one step quick method to EIA increase the turn around time (reporting time), the reliability of the produced data made up for the delay. It was found that 50/2595 (1.92%) cases were serology reactive. and 150/558 (26.88%) cases had abnormal hormonal (Free T₃, Free T₄ and TSH) levels. We have started Direct HDL-C and Direct LDL-C and Lipoprotein-a (Lpa) assays routinely which are helpful in managing patients with abnormal lipids. Quantitative estimation of RA factor, ASO and Hs-CRP were started and we are expecting regular test requisition from clinicians for their continuation. Quantitative estimation of ADA has been already started to rule out tuberculosis from other underlining cardiac disease.

Instrumentation in 2006

Window-based Fully Automated Random Access clinical chemistry analyzer from Randox UK was installed this year. The instrument has feature of storing all the reported data for unlimited period of time, advanced IQC monitoring system and the data can be transferred or traced easily. Quantitative estimation of RA, ASO and Hs-CRP was made possible by this machine. Five Part Differential Cell Counter with laser differentiation has been recently installed. The instrument features differentiation plots for precise cellular estimation and advanced IQC monitoring system. Coagulometer (4 Channel for

PT/APTT) with scattered light detection method has been installed during the preparation of this manuscript.

Major Gains of 2006

- Switch from Spot to ELISA
- Automation upgraded in Biochemistry
- More advanced (LASER) cellular differentiation in hematology
- Development of protocols and improved documentation
- Daily QC analysis in biochemistry
- Weekly QC analysis in Hematology
- Regular QC analysis in Coagulation
- RA ASO Quantification started
- HsCRP started
- ADA testing started
- Myoglobin qualitative started
- Testing for antibody of Hepatitis B for all staffs of SGNHC was also done this year

Goals set for 2007

- Blood Component separation: PRP, FFP, Buffy coat, and Packed cells through fully automated component separator will be precedential in Nepalese context
- Coagulation testing: using vacutainers, and scattered light detection technology
- Laboratory LIS and database system
- Lean Six Sigma in QC
- Fully automated ELISA system
- Automation in the microbiology in detection and isolation
- Switch to MIC, MBC level detection of antibiotics from classical Disk diffusion methods.
- Quantification of Troponin I and Troponin T are to be set
- Electronic reporting system

Sophisticated blood donor couch to make blood donation is a unique experience in SGNHC