CAT

BIOCHEMICAL REFERENCES

Parameters	Value	Unit
Liver function		
Bilirubin (total)	0-0.5	mg/dl
Bilirubin (direct)	0-0.2	mg/dl
Bilirubin (indirect)	0.09-0.2	mg/dl
Bile acids (BA)	1-10	---
Icterus index	2-5	U
BSP (sulfobromophthalein)<Retention	5	%
Metabolites		
Cholesterol	63-171	mg/dl
Cholesterol (Ester)	40-60	mg/dl
Cholesterol (Free)	20-40	mg/dl
Glucose	55-129	mg/dl
Ammonia	0-90	mmol/l
Carotene	188	---
Carotenol	50-194	---
Renal function		
Creatinine	0-2.1	mg/dl
Blood Urea	5-12.1	mmo/l
BUN (blood urea nitrogen)	14-35	mg/dl
NPN (non- protein nitrogen)	60-100	mg/dl
Ketones		
Triglycerides	6-58	mg/dl
Uric acid	0-1	mg/dl
Pyru vate	0.7	mmol/dl
Acid : base status		
Bicabonate	16.4-27	mmol/l
CO2	15-25	mEq/l
PCO2	34-49	mmHg
PO2	85-108	mmHg
pH	7.24-7.45	---

Proteins		
Total protein	5-8.3	g/dl
Albumin	2.1-3.8	g/dl
Globulin	2.4-5.1	g/dl
α 1 Globulin	0.2-1.1	g/dl
α 2 Globulin	0.4-1	g/dl
β Globulin	0.6-1.9	g/dl
β 1 Globulin	0.3-0.9	g/dl
β 2 Globulin	0.6-1	g/dl
γ Globulin	0.5-2.7	g/dl
γ 1 Globulin	0.3-2.5	g/dl
γ 2 Globulin	1.4-1.9	g/dl
Albumin / Globulin ratio	0.6-1.9	---
Electrolytes		
Chloride	105-135	meq/l
Osmolality	280-320	mOsm/kg
Anion gap	10-27	meq/l
Potassium	3.2-5.4	meq/l
Sodium	143-163	meq/l
Enzymes		
ALT ، SGPT	8.3-55	U/L
Alkaline phosphatase	6-95	U/L
Amylase	280-1800	U/L
AST ، SGOT	0-55	U/L
CPK ، CK	0-150.2	U/L
GGT	0-12	U/L
Lipase	2-2.4	U/L
SDH	2.4-6.1	U/L
LDH	10-273	U/L
LDH-1	0-8	%
LDH-2	3.3-13.7	%
LDH-3	10.2-20.4	%
LDH-4	11.6-35.9	%
LDH-5	40-66.3	%
RBC acetylcholinesterase	540	U/L
Arginase	0-14	U/ml
OCT (Ornithine carbamoyl transferase)	3.8	U/L
Butyrilcholinesterase	640-1400	U/L
Isocitrate dehydrogenase	2-11.7	U/L
(MD) Malate dehdrogenase	132	U/L
Acid phosphatase	0.5-24	U/L

Hormones		
Cortisol	9-150	nmol/l
Total Serom Thyroxine	0.95	µg/dl
T3 (RIA)	60-200	ng/ml
T4 (RIA)	0.1-5	---
ACTH	20-61	pg/ml
Growth hormone	0-8.5	ng/ml
Gastrin	28-135	pg/ml
Parathormone (PTH)	1.16-11	ng/ml
Minerals		
Calcium (total)	7.9-12.3	mg/dl
Calcium (ionized)	4.1-5.24	mEq/l
Iron	68-215	µg/dl
Iron-binding capacity	170-420	µg/dl
Magnesium	1.35-2.8	mg/dl
Phosphorus	3-7.3	mg/dl
Lead	<0.35	ppm

HAEMATOLOGICAL REFERENCES

Parameters	Value	Unit
Red Blood Cells		
RBC count	4.7-10	10 /µl
Haemoglobin	8-16	g/dl
PCV	20-45	%
MCV	39-63	fl
MCH	12.5-18	pg
MCHC (microhematocrit)	30-36	g/dl
MCHC (wintrobe)	30-36	g/dl
Reticulocytes	0-1	% of RBC
Erythrocyte resistance to hypotonic saline (Erythrocyte fragility) <minimum>	0.66-0.72	%
Erythrocyte resistance to hypotonic saline (Erythrocyte fragility) <maximum>	0.46-0.54	%
Erythrocyte surface area	63	Sq m/kg bwt
RBC diameter	5.4-6.5	µ
RBC life span	68-125	days
ESR (wintrobe)	7-27	mm/hour
Mean volume of a red cell	51-63	fl
Mean Hb of a red cell	13-17	pg
Hb concentration in a red cell	32-34	g/dl
White Blood Cells		
WBC count	4.5-22	10^3/µl

Neutrophils (mature)	2.5-13.4	× 10³/µl
Neutrophils (mature)	35-75	%
Neutrophils (bands)	0-0.3	× 10³/µl
Neutrophils (bands)	0-3	%
Lymphocytes	1.2-9	× 10³/µl
Lymphocytes	20-55	%
Monocytes	0-0.9	× 10³/µl
Monocytes	1-5	%
Eosinophils	0-1.2	× 10³/µl
Eosinophils	2-12	%
Basophils	Rare	
Basophils	0-0.5	%
Leukocytes	5.5-25	× 10³/µl
Neutrophil/Lymphocyte ratio	1.5-2	---
Coagulation		
Platelets	3-8	× 10/µl
Fibrinogen	50-300	mg/dl
Myeloid/Eythroid ratio	0.6-3.9	---
Thrombocytes	300-800	× 10³/µl
Thrombin time	6-19	seconds
Prothrombin time	5-21	seconds
Partial thromboplastin time	10-28	seconds
Bleedind time (Oral mucosa)	1-5	minutes
Clotting time (Lee White)	1-9	minutes
Clotting time (Cap .tube)	1-5.5	minutes
Fibrin degradation products (FDP)	0-8	---
Total data		
Blood volume	66.7	ml/kgbwt
Blood volume	240	ml، 8%bwt
Plasma volume	34-65.8	ml/kgbwt
Specific Gravity of Blood	1.045-1.057	---
Blood Pressure		
Direct : Femoral، Pressure transducer	135-200/90-145	mmHg
Indirect : Tibial، ultrasonic Doppler	108-130/71-96	mmHg

URINE ANALYSIS

Parameters	Value	Unit
Specific Gravity	1.015-1.065	---
Color	Straw Yellow	
Clarity	Clear	
Osmolality	500-2800	meq/l

pH	4.5-8.5	---
Calcium	3	mEq/l
Phosphorus	1.08	mg/kg/day
Magnesium	3-12	mg/kg/day
Glucose	Negative	
Bilirubin	0	
Creatinine	12-20	mg/kg/day
Urea nitrogen	500-1100	mg/kg/day
Ammonia nitrogen	60	mg/kg/day
Allantoin	80	mg/kg/day
Ketones	Negative	
RBC	0-5	---
WBC	0-5	---
Occult blood	Negative	
Protein	Trace	
Casts	Occasional Hyaline	
Epithelial cells	Occasional	
Fat droplets	Uncommon	
Bacteria	Negative	
Crystals	variable	
Fractional clearance of Electrolytes		
Sodium	0.24-0.96	%
Potassium	6.7-23.9	%
Chloride	0.41-1.33	%
Phosphorus	17-23	%
Glomerular function tests		
Endogenous Creatinine Clearance	2.7 1.2	ml/min/kg
Exogenous Creatinine Clearance	2.94 0.32	ml/min/kg
Inulin Clearance	(3.24-3.83) 0.83	ml/min/kg
PAH Clearance	10.61-15.1 3.48	ml/min/kg
Iothalamate Clearance	5.12 1.49	ml/min/kg
Iodohippurate Clearance	14.13 5.74	ml/min/kg
H-TEA Clearance	8.14 0.53	ml/min/kg
	44.4-5.7	Minutes
Filtration fraction	0.21-0.39 0.02	---
Tubular function tests		
Random USG²	1.001-1.080	---
USG after 5% dehydration	1.047-1.087	---
Uosm after 5% dehydration	1.581-2.984	mosm/kg
PSP	18-31	minutes