It is already reported that the alcoholic seed extract of *Abras precatorius* causes male antifertility in rats (Rao 1987). The steroidal fraction of these seeds cause decrease in sperm count (Sinha and Mathur 1990b). Ratnasooriya et al. (1991) examined the inhibitory effects of methanolic *A.preatorius* seeds extracts on motility of human spermatozoa and reported anti-motility effect of this plant.

Recently a lot of work has been done on *A.preatorius* Antiplatelet and anti-inflammatory effect of roots of *A.preatorius* was reported by Kuo et al. (1995). The antifertility activity of *A.preatorius* has been reported due to the presence of Saponins in these plants. Mac et al. (1998) separated Saponins and c-glycosyl flavones from the seeds of this plants. Abruquinone A,B,C,D,E,F and G have been isolated from its roots Song and Hu (1998).

The effects of alkaloid abrin isolated from *A.preatorius* (Linn.) seeds on mealy bug have been studied Anita et al. (1999). Liu et al. (2000) have analyzed the primary structure and function of *Abras precatorius* agglutinin and Paneerselvam et al. (2000) crystallized agglutinin from the seeds of *preatorius*. Suryakala et al. (2000) isolated novel protein from *Abras precatorius*. 
The antispermatogenic effects of the *A. precatorius* seeds in male albino rats have also been reported by Bansal *et al.* (2003); Jindal (2004) and Sharma (2005). Dhawan (2007) reported antispermatogenic effects and histochemical changes in gonads due to administration of various extracts of this plant. Reduction in sperm cells by aqueous leaf extract of *A. precatorius* was reported by Adedapo *et al.* (2007).

Different scientist explained the different structure of abrin. The completed primary structure of abrin-a B chain has been explained by (Chen *et al.* 1992). Kaushik and Khanna (1992) reported insecticidal substances in *A. precatorius*. Chen and Linn (1994) explained complete primary structure of abrin B chain. The new crystal structure of abrin has been explained by Tahirov *et al.* (1994,1995). The spectroscopic cytoagglutinating activity of abrin-B chain isolated from *A. precatorius* have been analysed by Ohba and Toyokawa (1997) observed molluscicidal activity of *Abrus precatorius*.

Fernando *et al.* (2001); Dickers *et al.* (2003); Pillay *et al.* (2005); Sahni *et al.* (2007); Subramanian *et al.* (2008) have observed the toxicity of Abrus seeds which was attributed by the to albumin abrin by inhibited protein synthesis. Tripathi *et al.* (2003) suggested abrin potentates the humoral immune response of the host and Abrus agglutinin acts as immunostimulants in vitro. Demyelisation due to *Abrus*
precatorius is immune mediated and it is an immunomodulator and stimulator reported by Tripathi et al. (2005) and Ramnath et al. (2002).

Due to necrotizing property of A. precatorius seeds serum level of liver enzymes i.e.; Asartated transferees (AST), alkaline transferees (ALT), and Lactic dehydrogenised (LDH) was markedly increased showing gradual degeneration in liver. The serum bilirubin level was observed to elevate gradually with progression of the lesions Hart (1963), Gunsolus (1995) and Davis (1978) reported poisoning due to consumption of seeds of A. precatorius.

Cases of gastroenteritis and death due to uraemia was reported by Ellenhorm (1988); and Dreisbach and Robertson (1987). Adhikary et al. (1989) observed no toxic effect on liver and kidney on administration of Piper betle Linn. Stalk in albino rats. Bakhiet and Adam (2007) observed enterohepatonephro-toxicity on administration of Cassia italica seeds in Bovans chicks.

The uretrotontic activity of seeds oil of alcoholic seeds extracts of A. precatorius in male albino rats was reported Nowodo et al. (1991a). Aqueous extract of A. precatorius have a protective effect against alcohol induced renal damage and this effect is related to a reduction in alcohol induced peroxidation (Rajaram et al. 1992; Ivan 2003).
The crude extract of stem bark *Mangifera indica* has no adverse effect on bone marrow and kidney (Young and Meciejewski 1997). In diabetic kidney, the vascular degeneration was limited to a very small isolated loci, suggesting the regeneration of kidney parenchyma caused on administration of crude extract of *Vinca rosea* leaf and flower (VRL &VRF) in male albino rats (Ghosh and Suryawanshi 2001).

The ethanolic extract of *Teucrium polium* causes markedly high damage in liver and kidney of rats (Kheifat et al. 2002). The aqueous leaf extracts of Rinbacin causes degenerative changes and necrosis of the epithelium of kidney tubule and glomeruli with high and low doses in rats (Afonne et al. 2002). Akdogan et al. (2003) reported the hydropic degeneration of tubular epithelial cells, the epithelial cytoplasm, tubular dilation and enlargement in Bowman’s capsule on administration of *Mentha piperita* Linn. and *Mentha spicata* in rats.

The flower of *Pongamia pinnata* have a protective effect against cisplatin and gentamicin induced renal injury in rats through its antioxidant property Shirwaikar et al. (2003). The aqueous leaf extract of *Chenopodium ambrosioides* cause necrosis of kidney tubules resulting chronic toxicity in rats (Aole and Izegbu 2005).

The attenuation of the alcohol induced lipid peroxidation of renal cell membrane in vivo by seeds of *A. precatorius* was due to its
antioxidants e.g. Gallic acid, glycyrrhizin & trigonelline (Lakshmi et al. 2006). The aqueous and alcoholic stem extract of *Tinospora cardifolia* causes significant changes in renal morphology in diabetic rats, however in normal rats it did not induce significant changes in renal morphology (Nagaraja et al. 2007).

Hadjzadeh et al. (2007) reported treatment of rats with ethanolic extract of *Nigella sativa* L. seeds reduced the number of calcium oxalate deposits induced by ethylene glycol in a group of rats. The therapeutic and preventive effect of the *Nigella sativa* on kidney calculus formation in human was also reported by Hadjzadeh et al. (2007).

The nicotine treated rats showed cloudy swelling, medullary haemorrhage in kidney. Whenever, the hesperidin treated wistar rats showed no morphological changes in kidney by nicotine as studied by Balakrishnan and Menon (2007).

Noor et al. (2007) suggested no notable changes in the histology of kidney and stomach sections on administration of *Aloe vera* in streptozotocin induced diabetic rats. *Helicteres isora* bark extract has the antihyperglycemic effect and consequently may alleviate liver and renal damage associated with streptozotocin (STZ) induced diabetic rats (Ganesan et al. 2003).
The aqueous extract of *Rhodiola iberica* roots results no histopathological changes in liver and kidney of rats were (Gupta *et al.* 2008). The aqueous extract from the shoots of *Arctotis arctotoides* causes hyperplasia of the epithelium of the distal convoluted tubule with adjacent chronic inflammation in kidney of rats and mice (Jimoh *et al.* 2008). Adedapo *et al.* (2008) reported mild congestion in kidney and liver on histopathological examination on administration of aqueous extract of *Acacia karroo* stem bark in rats and mice.

**Wurochekke et al.** (2008) reported liver damage and no effect on kidney caused on administration of the aqueous stem bark extract of *Xemenia americana* in rats. **Kaleem et al.** (2008) reported that *Annona squamosa* extract has an antihyperglycaemic effect and consequently may alleviate liver and renal damage associated with streptozotocin (STZ) induced diabetic rats.

The aqueous leaves extract of *Murraya koenigii*, *Psidium guajava* and *Catharanthus roseus* causes no significant histological alteration in glomcruli or any other segment of kidney tubule in streptozotocin diabetic albino rats **Prasad et al.** (2009). The methanolic extract of *Sideritis libanotica* activity caused the highest cells against the African green monkey kidney (Vero), human uterus carcinoma (HeLa) and rat brain tumor cells (C6) cancer (Demirtas *et al.* 2009).
The aqueous extract of the seeds of *Abrus precatorius* protect the kidney against alcohol induced parenchyma injury (*Ligha et al. 2009*). *Jaykaran et al. (2009)* studied significant abnormality in liver and kidney on administration of aqueous extract of *Ficus racemosa* Linn. bark in albino mice.

*Shanmugam et al. (2010)* reported alcohol ingested rat kidney showed severe degenerative changes in tubules, diffused cellular infiltration and severe congestion of blood vessels. Whereas, with ginger treatment in alcohol treated rats, the kidney appears to be normal and all the renal cells which were damaged due to alcohol stress appeared to be regenerated.

The aqueous extract of *Spirulina platensis* causes exhibit a protective action on cadmium induced renal dysfunction (*Gaurav et al. 2010*). *Oduola et al. (2010)* reported no adverse effect on liver and kidney function on administration of the leaf extract of *Morinda lucida* in rats. The extract of bark of *Moringa oleifera* results significant reduction in the weight of bladder stones compared to control rats.

The effects of acute and subacute cadmium administration on carbohydrate metabolism in mice was studied by *Ghafghazi and Mannear (1973)*. The biosynthesis of metallothionenin in rat liver and kidney occurred after administration of cadmium (*Shaikh and Smith*...
Kotsonis and Klaassen (1977) studied the toxicity and distribution of cadmium in rats on administration of sublethal doses. In 1978, Bremner explained cadmium toxicity. The evidence of cadmium toxicity in a population living in a zinc mining area was reported by Carrother et al. (1979). The renal excretion of proteins and enzymes in workers exposed to cadmium was studied by (Bernard 1979).

The immune complex nephritis in rats induced by long term oral exposure to cadmium (Joshi et al. 1981). A morphological study of the effect of 2-cysteine on the renal uptake and nephrotoxicity of cadmium was conducted by (Murakami 1981). The morphological effects of cadmium on proximal tubular cells in rats was observed by (Matsura et al. 1991). The chronic effect of cadmium on kidney, liver of male rats was studied by Saygi and Deniz (1991).

The renal cadmium deposition and injury as a result of accumulation of cadmium metallothionenin in the proximal convoluted tubules was reported (Dorian et al. 1992). The behaviour of selected indicators of lipid metabolism in kidney and liver of rats continuously exposed to effects of cadmium was studied by Janik and Grawli (1993). Kostic (1993) and Ognjanovic (1993) studied in vivo effects of cadmium induced changes in antioxidant. The cell death and regeneration of renal proximal tubular cells in rats with subchronic cadmium intoxication was studied by Tanimoto and Hamada (1993).

Renal damage occurred as a result of alcohol consumption may be reversible with abstinence (Cecchin and De.Marchi 1996). The mechanism of nephrotoxicity induced by reported administration of cadmium chloride in rats was studied by (Sudo et al. 1996). The experiment on cadmium accumulation in liver and kidney of mice exposed to the same weekly cadmium dose continuously or once a week, was carried out by Lind and Engman (1997). The effect of oral cadmium administration on the bone mineral density and renal function in female rats was studied by Ohta et al. (1998).

Tea consumption and risk of bladder and kidney cancers in a population based case control study was made by Bianchi et al. (2000). Rajashree and Puvanakrishnan (2000) showed that collagen content both in heart and kidney reduced on administration of dexamethasone in rats. The ochratoxins produces by fungi are nephrotoxic, and nephrocarcinogenic (Rastogi et al. 2001 and Orsi et al. 2007). The antitoxicity effects of green tea polyphenols on free radical initiated and photosensitized peroxidation of human low density lipoprotein (Liu et al. 2001).
Subchronic cadmium treatment effects the abundance and arrangement of cytoskeleton proteins in rat renal proximal tubule cells was described by Sabolic et al. (2001). The lactulose up to 5% level in the diet do not cause any toxicity in rats as evidenced by histology of kidney Baskaran et al. (2001).

The molecular inhibitory mechanism of antioxidant enzymes in liver and kidney of rats by cadmium was studied by Casalino et al. (2002). Ghanem and Muhammad (2004) observed toxic effect on kidney on administration of Regotamine in albino rats. The protective effect of naringin, a bioflavonoid on glycerol induced acute renal failure in rat kidney was studied by Singh et al. (2004).

In kidney cellular glomeruli, congestion of blood vessels and tubular necrosis on administration of cadmium in rats (Jeyaprakash and Chinnaswamy 2005). Administration of dimethyl mercury in rats reduces the hepatic and renal contents. In kidney, mercury induced hypercellularity, hypertrophy in glomeruli and epithelial cells of cortical and medullary renal tubule was showed by Singh et al. (2007).

Afifi. E. M. Mohamed (2010) reported that camel’s milk has a renoprotective potential against cisplatin induced oxidative stress and renal dysfunction in mice.
Al-Attar, M. Atef and Al-Taisan, Wafa’a (2010) reported that *Nigella sativa* seeds can be considered as a promising therapeutic agent against haematotoxicity, immunotoxicity, hepatotoxicity, nephrotoxicity and cardiotoxicity induced by Diazinon on rats.

The references available on the haematological effects of herbs on mammals are scanty therefore for the convenience of comparison some literature of haematological effects of chemicals and pesticides were also incorporative in the study.

Chauhan *et al.* (1974) reported hypertrophy of adrenal tissue caused in male albino rats treated with Malathion. A decrease in Glucose-6-phosphate (G6pase) activity in kidney cells of pig and in liver of rat after treated of insecticide was reported by Srinivasan *et al.* (1978). Verma *et al.* (1983) observed increase in the value of Ganadosomatic index (GSI) and hepatosomatic index (HIS) in intoxicant stress fish. It was also reported that the water content increased in liver on administration of Thio tox, Malathion and their two combinations.

Way *et al.* (1989) reported occupational risk of decreased plasma cholinesterase among pesticide production workers in Taiwan. Acute tubular necrosis due to Endosulfan poisoning was observed by Chen (1995). The toxic effects of Carbaryl on liver, kidney, muscles, and intestine of Rana tigrina studied by Sampath *et al.* (1995). Farrang and
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Shalby (2007) observed inflammatory cell infiltration in kidney, congestion and hypercellularity of the glomeruli on administration of Lufenuron and Profenofos insecticide in albino rats. The effects of Lufenuron are more powerful than Profenofos. Methylene Blue organ specific effect and is better in protecting kidney than liver reported by Jena and Chainy (2008).

Jain(1986); Dacie and Lewis (1991) estimated the total white Blood Cells (WBCs), its differentials, Red Blood Cells (RBCs) and the platelet counts were estimated using the Improved Neuberger Counting Chamber. (Jain 1986) determined using the cyanomethaemoglobin method. Some significant changes in Red Blood Cells (RBCs), Haemoglobin (Hb%), Mean Corpuscular Haemoglobin (MCH), Mean Corpuscular Volume (MCV), Packed Cell volume (PCV)on administration of aqueous extract of Acacia karroo in rats as observed by Coles (1986).

Decrease in proteins and sialic acid on feeding of Abrus precatorius seeds extract to rat was observed by Sinha and Mathur (1990A). Rahman et al. (1990) reported significant reduction in Haemoglobin Content (Hb), Serum Glutamate Pyruvate Transaminase (SGPT), and an increase in Serum Glutamate Oxaloacetate Transaminase (SGOT), Serum Acid Phosphatase on administration of Isoprocarb in Chicken.
High concentration of GGT (glutamyl transferase) in the kidney of albino rats on administration of *Arctotis arctotoides* extract was reported by Bush (1991). Njwodo *et al.* (1991b) demonstrated antidiarrhoeal activity of alcoholic seeds extract of *Abrus precatorius* Linn. in male albino rats.

**Dacie and Lewis** (1991); **Schalm *et al.*** (1975) suggested the haematological parameters using the improver Neuberger counting chamber. Glucose-6-phosphatase enzyme is mainly found in the gluconeogenic tissues liver and kidney, where it plays a major role in the glucose production observed by **Beaudet *et al.*** (1991).

**Garg *et al.*** (1992) observed not significantly toxic effect on Red Blood Cells (RBCs), Haemoglobin(Hb%), Mean Corpuscular Haemoglobin (MCH), Mean Corpuscular Volume (MCV), Mean Corpuscular Haemoglobin Concentration (MCHC) and Blood Urea, AST, ALT, Acid Phosphatase, Total Albumin at low and medium doses in 7&21 days on administration of aqueous extract of silken styles of corn *zea maize* Linn.

It has been reported that the continued administration of aqueous extract of *Arctotis arctotoides* causes coagulation deficiency lead to internal and external haemorrhage (Cheeke & Shull (1985); Searey and Petrie (1990); Carlson (1996). Gathumbi *et al.* (2000) observed no significant
changes in Blood Urea, Aspartate Aminotransferase, Albinin, and Total Protein on administration of aqueous extract of *Prunus africana* stem bark in rats, but this extract is mildly toxic to the liver and heart of rats.

The higher value of Red Blood Cells (RBCs), Haemoglobin(Hb%), Mean Corpuscular Haemoglobin (MCH), Mean Corpuscular Volume (MCV), Packed Cells Volume (PCV), White Blood Cells (WBC) was reported on administration of aqueous extract of *Mangifera indica* Linn. (Mango) stem bark in rats studies by *American Diabetes Association* (2000).

Creatinine is a marker of renal function. *Murali and Goyal* (2001) *Shinde and Goyal* (2003) reported an increase in Serum Creatinine levels only after 30 days in diabetic and these levels were decreased with *Tinospora cordifolia* and insulin treatment. Serum enzymes SGOT and SGPT showed considerable improvement on administration of crude extracts of *Vinca rosea* leaf and flower (VRL &VRF) in male albino rats Studied by *Gosh and Suryawanshi* 2001).

*Baskaran et al.* (2001) showed that lactulose upto 5% level in the diet do not cause any toxicity in rats as evidenced by Glutamic Oxaloacetic Acid (SGOT), Glutamic Pyruvate Transminase (SGPT), Acid Phosphatase (ACP). Reduction in blood glucose level in diabetic rats by *Abrus precatorius* was observed by *Mango and Akhidus* (2002).
Khleifat et al. (2002) showed increase in Blood Urea on chronic administration of *Teucrium polium* ethanolic extract in rats. However Red Blood Cells (RBCs), White Blood Cells (WBCs), Differential Leukocyte Count (DLC), Mean Corpuscular Volume (MCV), Mean Corpuscular Haemoglobin Concentration (MCHC).

Increase in the levels of Plasma Urea and Creatinine was on administration of *Mentha spicata* and *Mentha piperita* Linn. in rats. (Akdogan et al. 2003). Shinde et al. (2003) reported that Serum Creatinine and Urea levels indicate the impaired renal function of diabetic animals.

Adedapo et al. (2005) observed significant changes in the total White Blood Cells (WBCs) and its differentials caused due the aqueous extract of the leaves of *Phyllanthus amarus* in rats. The ethanolic bark extract of *Terminalia arjuna* results in decrease of Blood Glucose, Glucose-6-Phosphatase, Fructose-1,6-diphosphatase, Aldolase and increase in the activity of Phosphoglucoisomerase and hexokinase in liver and kidney of normal and alloxan induced diabetic rats (Ragavan and Krishnakumari 2006).

The aqueous leaf extract of *A. precatorius* also causes decreased the Red Blood Cells (RBCs), White Blood Cells (WBCs), Haemoglobin concentration (Hb%), Packed Cell Volume (PCV), Mean Corpuscular Haemoglobin (MCH), Mean Corpuscular Volume (MCV), (Adedapo et
Babayi et al. (2007) reported no significant changes in haematograms and plasma biochemical parameters on administration of aqueous extract of *Cassytha filiformis* in rats.

Adedapo et al. (2007) observed no toxic effect in Red Blood Cells, Haemoglobin Concentration, Mean Corpuscular haemoglobin, White Blood Cells Count and its differentials, packed Cell Volume, Mean Corpuscular Haemoglobin Concentration on administration of aqueous extract of leaves of *Acacia karroo* in rats. Decrease in Blood glucose, Total serum Cholesterol, Creatinine Kinase(CK) level and AST, ALT, Total Protein, Total Bilirubin, Blood Urea were unchanged on administration of *Ballota nigra* in albino rats.

Bhatt et al. (2007) reported no appreciable alteration in Red Blood Cells, Haemoglobin and Serum Cholesterol, Total Lipids, Proteins, Serum Glutamate Transminase, Serum Glutamate Oxaloacetate Transminase levels caused on *Abrus precatorius* in male mice (*Mus musculus*). No toxic effect in Red Blood Cells (RBCs), White Blood Cells (WBCs), Haemoglobin contents (Hb%) and Acid Phosphatase, Alkaline Phosphatase, SGOT, SGPT on administration of ethanolic extract of *Piper betle* Linn. (Petiole) on female albino rats observed by Sharma et al. (2007).
Abuelgasium et al. (2007) suggested decrease levels of Red Blood Cells (RBCs) and increase levels of Alkaline Phosphatase (ALPase) on administration of methanolic extracts of Ambrosia moritima. On the other hand, increase levels of White Blood Cells and no changes in haemoglobin (Hb%), Packed Cell Volume (PCV), Mean Corpuscular Volume (MCV), Mean Corpuscular Haemoglobin Concentration (MCHC) on administration of water extract Ambrosia moritima in rats.

However, Adedapo (2007b) reported AST is not a liver specific enzymes as high level of AST. Can also be found in skeletal and cardiac muscle as well as Red Blood Cells disorder due to the toxicity of an aqueous extract of the leaves of Abrus precatorius in rats.

The Serum level of AST showed significant increase compared to the control group causes due the effects of aqueous extract of Xemenia americana stem bark in rats. Because AST is not specific for the liver only but is also located in kidney. Brown et al. (2007) reported significant changes of Serum Creatinine, renal Gluconeogenic enzymes, Glucose-6-Phosphatase and Fructose-1-6-diphosphatase activity on administration of aqueous and alcoholic stem extract of Tinospora cordifolia in diabetic rats. However, in normal rats administration of both extract of Tinospora cordifolia did not induce significant changes in any one of these parameters.
Anilakumar et al. (2007) reported high levels of γ-Glutamyl Transpeptidase (GGT) in kidney on administration of Emblica officinalis (ambla) on hexachlorocyclohexane (HCH) treated in rats. Increase in levels of plasma Alanine Transaminase (ALT), Alkaline Phosphatase (ALP), Aspartate Transaminase (AST), Lactate Dehydrogenase (LDH) in plasma on administration of Nicotin in wistar rats was observed by Balakrishnan and Menon (2007).

Singh et al. (2007) showed a significant increase in the activity of Serum Alanine Transaminase (ALT), Serum Aspartate Transaminase (AST), Serum Alkaline Phosphatase (SALP), Serum Lactate Dehydrogenase (LDH), Bilirubin and Creatinine on administration of Dimethyl Mercury in rats.

Kesari et al. (2007) reported biochemical changes on administration of aqueous extract of Murraya koenigii. No acute and sub-acute changes in SGOT, SGPT, Serum Bilirubin, Creatinine, AST, ALT, and Haemoglobin (Hb%), Red Blood Cells (RBCs), White Blood Cells (WBCs), Packed Cell Volume (PCV), Mean Corpuscular Volume (MCV), Mean Corpuscular Haemoglobin Concentration (MCHC) on administration of aqueous extract of Rhodiola imbricate roots in rats Gupta et al. (2008).
Jimoh et al. (2008) reported no toxic changes in the Red Blood Cell Count (RBCs), Packed Cell Volume (PCV), Haemoglobin Concentration (Hb%), Mean Corpuscular Volume (MCV), Creatinine but the level of Alkaline Phosphatase (ALP), Alanine Transminase (ALT), Blood Urea, Bilirubin was decrease and White Blood Cells (WBCs) count and its differentials were increase on administration of aqueous extract from the shoots of Arctotis arctoides in rats and mice. No significant changes in Red Blood Cells (RBCs), Packed Cell Volume (PCV), Haemoglobin Concentration (Hb%), Mean Corpuscular Volume (MCV), White Blood Cells (WBCs) and its differentials and decrease in the levels of Total and Unconjugated Bilirubin was observed on administration of aqueous extract of Acacia karroo stem bark in rats and mice by Adedapo et al. (2008).

Antimicrobial activity of aqueous extract of Abrus precatorius in vitro was studied by Adelowotan et al. (2008). Wurochekke et al. (2008) reported no significant differences in Serum levels of Urea and Creatinine on administration of the aqueous stem bark extract of Xenima americana in rats.

The crude aqueous stem bark extract of Mangifera indica (Mango) caused an increase in Red Blood Cells (RBCs), Packed Cell Volume (PCV), Total White Blood Cells (WBCs), its differentials and platelet
counts while decrease the levels of Haemoglobin (Hb%) of albino rats was reported by Nwinuka et al. (2008). Sahoo et al. (2008) reported no changes in Haemoglobin (Hb%), Erythrocyte Sedimentation Rate (ESR), Total and differentials counts and Serum Aminotransferase, Aspartate Aminotransferase, Bilirubin, Alkaline Phosphatase and Urine components were caused due to Abrus precatorius. Also there was complete recovery after steroid therapy.

No significant changes in renal function test (Urea and Creatinine) on administration of aqueous seeds extract of Hibiscus sabdariffa in female albino rats was reported by Okasha et al. (2008). Decrease in the phagocytic index of neutrophil and increase in the percentage of neutrophils in differentials counts in the postoperative blood on administration of surgical stress was reported by Savitha et al. (2008).

Adedapo et al. (2008) observed decreased platelet level in the circulatory system on administration of aqueous extract of Telfaria occidentalis in rats. High Urea and Creatinine levels in the blood of albino mice caused on administration of Mytotoxins fungal extract reported by Alwakeel (2009).

Jaykaran et al.,(2009) studied no lethal effects on Haemoglobin (Hb%), Red Blood Cells (RBCs), White Blood Cells(WBCs), Blood Urea, Blood Glucose, Serum Creatinine, Serum Cholesterol, SGPT,
SGOT on administration of aqueous extract of *Ficus racemosa* Linn. Bark in albino mice. Liver synthetic activity, reduced lipid level and increased kidney function parameters (Urea and Creatinine) on administration of “Garbha Gintamani Rasa” (GGM) in rats was observed by *Bulbul et al.* (2009). The both aqueous and ethanolic corn extract of *Zygotritonia croceae* causes alters biochemical parameters such as glucose, protein, ALT, AST, and ALP. Cholesterol in rats was observed by *Adeniyi et al.* (2010).

Toxic effect of *Azo Carmine* causes reduction in the Total Count of RBCs, WBCs and Haemoglobin (*Isaacson et al.* 1946). *Sodium Cyclamate* and *Saccharin* results in toxic effect decrease in Hb%, Neutrophils and Lymphocyte (*Taylor et al.* 1968).


The Glutathione Peroxides and catalane in liver, kidney, brain and testes region of rats following *Cadmium* exposure and subsequent withdrawal was studied by *Shukla and Hussain* (1989). The disturbance of Sialic metabolism by chronic *Cadmium* exposure and it’s relation to proteinuria was worked out by *Cardenas et al.* (1991). (*Janik and Grawli; Kostic and Ognjanovic* 1993) studied in vivo effects of
Cadmium induced changes of antioxidant and metabolic status in Red Blood Cells (RBCs) of rats.

The effect of Liv-52 on different biochemical parameters such as SGOT, SGPT, Protein and Urea in cases alcoholic cirrhosis was studied by Dubey et al. (2000). Grinberg et al. (1997) studied the protective effects of tea polyphones against oxidative damage to Red Blood Cells (RBCs). The alterations in is forms of Glutathione-S-Transferes in liver and kidney of rats of Cadmium exposed Rhesus monkeys and its purification and kinetic characterization.

The regulation of intestinal Glucose transport by tea catechism was described by Shimizu et al. (2000). The protective effect of green tea against lipid per oxidation in the liver, blood serum and brain in rats was studied by Skrzydlewska et al. (2002).

Curley et al. (1969) observed traces of Chorinated insecticide in organs of still born and blood of new born babies in human beings. Increase level in Mean Corpuscular Volume (MCV), Mean Corpuscular Haemoglobin (MCHC) Concentration in Diazinon treated rats was reported by Bomford (1975); Varadaraj et al. (1993) and Prabhu (1997). Rajni et al. (1981) and Mars et al. (1984) reported RBCs damage due to the Endosulfan toxicity.
Endosulfan induced Haematological changes in fishes were observed by Gopal et al. (1982). Rao et al. (1984) reported an increase in Total Erythrocyte Count (TEC) and Haemoglobin (Hb) contents in Hetropneustes fossilis after 30 days exposures to sublethal dose of Delamethrin.

Dinel et al. (1986) damage the human Red Blood Cells (RBCs) membrane caused by Endosulfan. Hussian et al. (1987) reported that Malathion effect the blood and tissue biochemical and cholinesterase enzyme activity. Increase in cholinesterase was highly inhibited and the activity of Alkaline phosphatase, GOT and GPT in liver, kidney were also significantly increased. Increase in Erythrocyte Sedimentation Rate (ESR) on administration of Diazinon was reported by Rajni et al. (1987).

Total Leucocytes Counts (TLC), Haemoglobin (Hb), and Packed Cell Volume (PCV) had decreased whereas MCV, MCH, MCHC were not changed due to oral dose of non-nutritive sweetener Saccharin in albino rats was reported by Prasad and Rai (1988). An increase in volume of Mean Corpuscular Volume (MCV) after treatment with sub-chronic dose of Cypermetherin in albino rats was observed by Shakeori et al. (1988).

Deceased number of Total Erythrocyte Count and haemoglobin on administration of Azo-carmine was reported by Pravbati et al. (1988).
Red blood cells (R.B.Cs) damage due to the Endosulfan toxicity was reported by \textit{Daniel et al.} (1986). \textit{Kumar et al.} (1990) was reported increased levels of Total Leucocyte Count (TLC) in Clarius batractus exposed to lethal dose 46 Hrs. LD_{50} of series an Organophosphate group of insecticide.

Increase in level of packed cell volume (PCV) in rats, treated with 10\% BHC was reported by \textit{Chaudhary and Sahai} (1992). \textit{Jain and Bhargava} (1992, 1994) reported decline in ESR value in Methyl Parathion and Phosphamidon treated rats.

\textit{Mishra} (1993) reported increased level of total leucocytes count (TLC) in Clarius batractus exposed to 48 Hrs Le_{50} of a series an Organophosphorus group of insecticide.

\textit{Jain et al.} (1995) reported increase level in GOT, Blood Glucose level, and Blood Lactate Pyruvate on administration of Eldrin. \textit{Prabhu et al.} (1997) studied some significant changes in haematological parameters on administration of Cybil in albino rats. The Total Erythrocyte Count (TEC), Haemoglobin (Hb) concentration, Mean Corpuscular Volume (MCV) was decreased while Erythrocyte Sedimentation Rate (ESR) and Mean Corpuscular Haemoglobin Concentration (MCHC) were increased significantly.
Bhargav (1998) reported Organochlorinated pesticides decline MCHC and Hb Content and PCV fluctuations in albino rats. The oral treatment of Entryprifos also resulted in increased lymphocyte production in male fisher 349 rats (Blakely et al. 1999).

Akay et al. (1999) reported an increased in Total Leucocytes Count (TLC) upon exposure of rats to a combination of insecticide viz. Endosulfan, Dimethoate and Carboxyl. The toxicological manifestation like eczema, hyper-pigmentation, respiratory disorder, haematological effect on factory workers engaged in manufacturing Endosulfan pesticides and farm workers using Endosulfan pesticide in their crops have been already was reported by Bansal et al. (2000).

Increase in level in Total Leukocytes Count (TLC) in mice after oral treatment of Daltamethrin and Fenralerate was observed by Toss-Luty et al. (2001). Effect of Endosulfan and its metabolites in fertile women, placenta cord, blood and human milk was reported by Cerrilo et al. (2005).

Yashowardhan et al. (2008a) reported increased Erythrocyte Sedimentation Rate (ESR) with decrease in Packed Cell Volume (PCV) treated with Diazinon on albino rats.

Al- Attar MA (2010) reported that oral administration of alfa-lipoic acid produces significant antihepatotoxicity and nephrotoxicity
effects in Malathion treated rats. El- Kashoury and Tag- EI- Din (2010) reported decrease in the activity of alkaline and acid phosphatase (ALP and ACP) and lactate dehydrogenase (LDH) in treated groups on administration of Chlorpyrifos.

Amna et al. (2011) observed significant toxic changes in wistar rats on administration of 10% Ipomoea carnea leaves extract, however the 2% feed caused less toxic changes. Mohagheghi et al. (2011) reported significant improvement in cholesterol, triglyceride, BUN, serum Creatinine, Na and K levels on administration of Hibiscus sabdariffa in diabetic rats.