Pharmacodynamic Interactions

This happens when One drug modulates the pharmacologic effect of another, these modulates could be additive, synergistic, or antagonistic and Is caused by the competition at receptor sites, or action of the interacting drugs on the same physiological system. There is no change in the plasma concentrations of interacting drugs in the pharmacodynamic interactions (Lees P, *et al.*. 2004).

Pharmaceutical Interactions

Type of interactions occurs prior to systemic administration of drugs, either during synthesis or in the finished pharmaceutical product (Mellor and Jayasinghe 2011).

1.7.1.2 The Cytochrome P-450 (CYP450) Enzyme System

Cytochrome P450 (CYP) enzymes are a superfamily of mono-oxygenases that are found in all kingdoms of life, it performs its metabolic function by oxidizing, hydrolyzing or reducing the chemicals. This enables another group of enzymes i.e. the conjugation enzymes, to attach polar groups to the parent molecule or the primary metabolite to make the metabolites water-soluble so they can be excreted in the urine The CYP450 system is important because it is involved in most clinically relevant metabolic drug interactions (Ortiz de Montellano, P. 2005).

about 55 human isoforms of CYP450 have been discovered. The known clinically relevant cytochromes are (CYP3A4, CYP2D6, CYP1A2, CYP2C9, CYP2C19 and CYP2E1) but CYP1, CYP2 and CYP3 are the most important in drug metabolism. (Dresser GK, *et al.*. 2000).