

binding was saturable, reversible and tissue dependent in nature. The saturation experiment revealed a single binding site with a dissociation equilibrium constant (K_d) of 3.41 ± 0.95 nM and a receptor density (B_{max}) of 86.59 ± 9.09 f mol/mg protein. Several drugs were used to compete with [3H]-spiperone binding having the descending order of potency in competing with [3H]-spiperone binding to be ritanserine > prazosin > pipamperone > pirenperone > ketanserine > spiperone > methysergide > chlorpromazine > haloperidol > sulpiride > serotonin > imipramine. The results indicate that human platelet contains 5-HT₂-serotonin receptor binding.

The saturation experiments of 5HT₂ serotonin receptor sites on human platelets in migraine subjects and normal subjects (67.67 ± 1.52 yrs., 72.86 ± 1.82 yrs. respectively), the value of B_{max} in migraine subjects is significantly increased when compared to normal subjects (64.31 ± 11.06 f mol/mg protein, 39.96 ± 5.42 f mol/mg protein respectively, $P < 0.05$) whereas the K_d values are slightly increased (3.63 ± 0.78 nM, 2.84 ± 0.48 nM respectively). Platelet aggregation and platelet cells count in these two groups are similar (The score is given for platelet aggregation, 1 = positive, 0 = negative; 0.66 ± 0.18 , 0.57 ± 0.18) and platelet cells count value are $4.08 \pm 0.85 \times 10^6$ /ml, $4.22 \pm 1.19 \times 10^6$ /ml respectively.

The saturation experiments in the other groups, migraine subjects and normal subjects (28.83 ± 4.06 yrs., 27.67 ± 2.34 yrs. respectively), the value of B_{max} in

migraine subjects is significantly reduced when compared to normal subjects (33.01 ± 5.57 f mol/mg protein, 86.59 ± 9.09 f mol/mg protein, respectively, $P < 0.025$). However, the K_d values are non-significant different (3.41 ± 0.95 nM, 2.47 ± 0.44 nM, respectively). Platelet aggregation is significant different (The score is given for platelet aggregation, 1 = positive, 0 = negative, 0.66 ± 0.20 , 0.16 ± 0.17 , respectively). Whereas the value of platelet cells count in these two groups are similar ($2.36 \pm 0.59 \times 10^8$ /ml, $2.35 \pm 0.64 \times 10^8$ /ml respectively). In addition, the B_{max} value of the normal elderly is significantly reduced when compared to normal young subjects (39.96 ± 5.42 f mol/mg protein, 86.59 ± 9.09 f mol/mg protein, respectively, $P < 0.001$). However, the K_d value is non-significant different between these two normal groups (2.84 ± 0.48 nM, 2.47 ± 0.44 nM, respectively). Platelet aggregation in the normal elderly is significant different when compared to normal young subjects (The score is given for platelet aggregation, 1=positive, 0=negative, 0.57 ± 0.18 , 0.16 ± 0.17 , respectively, $P < 0.005$). The mechanism of structural and functional changes of platelets as found in both migraine patients as well as the normal subjects is not clearly understood. However, this study shows that 5HT₂ receptor remarkably relates to migraine and its mechanism(s) need further clarification.