Migraine is a common, chronic incapacitating neurovascular disorder, characterized by attacks of severe headache, nausea, vomiting, photophobia and phonophobia. Drugs used to prevent migraine and those that effectively treat acute migraine attacks are readily available. Mild or moderate migraine is often treated with NSAIDS and antiemetic drugs. Triptans are used to treat moderate to severe migraine when non-specific medications are ineffective. Triptans are derived from serotonin molecule and act on the 5-HT_{1B/1D} receptors. The receptors are on the blood vessels, trigeminal neurons and trigeminal nucleus caudalis. Activation of these receptors causes constriction of the extracerebral intracranial vessels, abolition of the dural extravasation and neurogenic inflammation and inhibition of trigeminal neuronal discharge. It is likely that the 5-HT_{1B/1D} agonist activity is the primary mechanism of the therapeutic effect of these drugs.

**Almotriptan**: It is a new antimigraine agent with nanomolar affinity for human 5HT_{1B/1D} and 5HT_{1F} receptors. Almotriptan was effective in animal models predictive of antimigraine activity in humans and is safe in animals studies. It is well absorbed orally in humans. Its peak plasma levels are reached at 1-3 h after its administration; its elimination t_{1/2} is 3-4 h. No dose adjustment is required for gender or age except only in the case of severe renal impairment. The dose should not exceed 12.5 mg over 24 h period.

**Rizatriptan**: This is a selective 5HT_{1B/1D} receptor agonist for the acute treatment of migraine. It is available in a unique wafer formulations that dissolves rapidly in the mouth and can be taken without liquids, thereby offering patients a very convenient way to take treatment. Its t_{1/2} is 2.4 h. Rizatriptan (5 and 10 mg) is effective in treating acute migraine with a dose related increase in efficacy.

**Naratriptan**: This is least potent among the triptans regarding the primary end points in the relief from acute migraine attack i.e. sustained freedom from pain or consistency (efficacy in at least two out of three treated attacks) of effect. At 2.5 mg dose it has better pharmacokinetic profile than 100 mg of sumatriptan. It is better tolerated.

**Eletriptan**: It is a potent serotonin agonist at 5HT_{1B/1D} receptor and is indicated for the acute treatment of migraine headaches. It is administered orally and is rapidly absorbed. The relatively high lipophilicity of eletriptan explains its faster oral absorption and shorter time for onset of action. It is more efficacious at 40 and 80 mg dose as compared to 100 mg of sumatriptan though modest increase in adverse events may be seen with 80 mg of eletriptan.

**Zolmitriptan**: It is a new antimigraine triptan having similar efficacy and tolerability at 2.5 and 5 mg as compared to 100 mg of sumatriptan. Fast melt formulation of zolmitriptan represents real competition with other triptans in the usual tablet formulations. It is especially suitable for acute migraine patients for rapid relief.

**Frovatriptan**: It is a new 5HT_{1B/1D} agonist antimigraine triptan undergoing clinical trials. Pre clinical data suggest that the pharmacokinetic and pharmacological profile of frovatriptan may differ from that of currently available triptans. It is longest acting triptans with t_{1/2} 25 h.

Newer drugs currently under development for acute attacks of migraine includes kainate antagonist LY 293558 and GR 79236, a selective adenosine A1-receptor agonist. Various other approaches are blockade of calcitonin gene related peptide, neurokinin-1 antagonist and blockade of nitric oxide synthesis.

Although the triptans represent an important advance they are ineffective in some patients because of their coronary vasoconstrictive side effects. LY334370, a selective 5HT_{1F} agonist having exclusive neural action through trigeminovascular neuronal inhibition does not show any vasoconstrictive adverse effects. Exploring the mechanisms involved in the onset of migraine will lead to development of more specific, more efficacious and better tolerated drugs.

**Sources:**
1. www.jjmp.com

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