life-threatening haemorrhage. Propranolol may also have a role in patients with portal hypertensive gastropathy. In a controlled study, propranolol reduced the incidence of recurrent bleeding from portal hypertensive gastropathy in patients with cirrhosis.[34]

Prophylaxis of a first bleed in patients with portal hypertension is controversial since about 70% of patients who have varices will never bleed, but should probably be given to patients with cirrhosis and varices thought to be at high risk of bleeding. A reliable system that will identify those at high risk of haemorrhage has yet to be devised. The NIEC (North Italian Endoscopic Club) system is probably the best so far,[35,36] and is based on size of the varices, presence of red wale marks on the varices, and Child-Pugh class; amendments to improve the traditional index have been suggested.[36] Sclerotherapy had been considered as a method of prophylaxis, but its value has not been clearly established. Studies show that beta blockers decrease the incidence of a first bleed[27,37] and are probably the treatment of choice if prophylaxis is to be given. Banding ligation may be a suitable alternative for patients who are unable to take beta blockers.[38] Others consider banding ligation to be the standard therapy for prophylaxis.[9] A meta-analysis[39] of 9 randomised controlled studies concluded that variceal banding ligation was superior to beta blockers in preventing a first variceal bleed, whereas a systematic review[40] of 16 randomised controlled studies found both treatments to be effective and suggested that the estimated effect of banding ligation in some studies may be biased and was associated with shorter duration of follow-up.

It is postulated that a reduction in portal pressure to below 12 mmHg is necessary to reduce the incidence of variceal bleeding and that treatment with beta blockers alone does not achieve this. More effective drugs are being sought, and isosorbide mononitrate[9,41,42] (as adjunctive therapy with a beta blocker) and clonidine[43] have been investigated for the prophylaxis of a first bleed and prevention of recurrent haemorrhage in patients with portal hypertension.

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Varicose veins. Varicose veins are tortuous, protruding veins in the legs, that occur when weak vein walls and valve incompetence result in venous reflux and dilatation. Symptoms associated with varicose veins include heaviness, tension, aching, and itching of the legs. Complications include oedema, thrombophlebitis, deep venous thrombosis, lipodermatosclerosis, and venous ulceration. Risk factors for varicose veins include increasing age, pregnancy, and occupations that involve prolonged standing.[1]

The management of varicose veins has been reviewed.[1-3] Conservative management using compression hosiery may be effective for relief of symptoms in some patients but longer-term compliance is poor.[3] Surgery or sclerotherapy are other treatment options, depending on the veins affected. Surgical treatment, which is the gold standard for treatment of more severe varicose veins, may involve ligation of the affected vein, stripping of the affected stem vein, or avulsions of the varicosities.[3] In sclerotherapy, which may be the treatment of choice for thread veins,[2] a sclerosant is injected into the affected vein where it irritates and damages the lining of the vein causing local thrombosis, fibrosis, and stenosis. Detergent sclerosants include monoethanolamine oleate, sodium tetradecyl sulfate, lauromacrogol 400, and sodium morrhuate; osmotic sclerosants include hypertonic sodium chloride solutions, and hypertonic mixtures of sodium chloride and glucose; caustic sclerosants include chromated glycerol, and a mixture of iodine and sodium iodide. Graduated compression dressings are usually applied after sclerotherapy to minimise the time taken for the surrounding tissue to absorb the damaged segment of vein. Compression may also help to reduce complications of sclerotherapy including hyperpigmentation, oedema, aching, thrombophlebitis, and deep venous thrombosis. A systematic review[4] of randomised controlled trials of injection sclerotherapy failed to determine its place in the overall management of varicose veins, since the type of sclerosant, formulation, local pressure dressing, or degree and length of compression do not appear to have a significant effect on efficacy. However, the evidence supports its current place in practice, which is in the treatment of recurrent varicose veins following surgery, and thread veins. In another systematic review,[5] the use of surgery or sclerotherapy for the management of primary varicose veins was compared. There was a tendency for better early outcomes with sclerotherapy whereas surgery produced more long-term benefits. However, there was insufficient evidence to recommend the use of one form of treatment over the other, and the extent of the varicose veins ultimately governs the choice.

New methods of treatment being tried include foam sclerotherapy, in which a detergent-like sclerosant is mixed with air to create a foam,[2] ambulatory phlebectomy, endovenous laser therapy, and radiofrequency ablation.[3,6]

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Preparations

BP 2008: Ethanolamine Oleate Injection.

Proprietary Preparations (details are given in Part 3)
Braz.: Ethamolin; ***Jpn:*** Oldamin; ***USA:*** Ethamolin.

Monosodium Glutamate

Chinese Seasoning; E621; Glutamato monosódico; MSG; Natrii Glutamas; Sodium Glutamate. Sodium hydrogen L-(+)-2-aminoglutarate monohydrate.

$C_5H_8NNaO_4,H_2O$ = 187.1.
CAS — 142-47-2 (anhydrous monosodium glutamate).

Pharmacopoeias. In *Chin.* Also in *USNF.*
USNF 26 (Monosodium Glutamate). White, practically odourless, free-flowing crystals or crystalline powder. It may have either a slightly sweet or slightly salty taste. Freely soluble in water; sparingly soluble in alcohol. pH of a 5% solution in water is between 6.7 and 7.2. Store in airtight containers.

Profile

Monosodium glutamate is widely used as a flavour enhancer and imparts a meaty flavour.

In susceptible individuals, ingestion of foods containing monosodium glutamate may cause MSG symptom complex, a condition characterised by burning sensations, or numbness, in the back of the neck and arms, tingling or warmth or weakness in the face, back and neck, facial pressure, chest pain, headache, nausea, drowsiness or weakness. In patients with asthma, who may be predisposed to develop this condition, bronchospasm may occur. The symptoms tend to occur within an hour of eating 3 g or more of monosodium glutamate on an empty stomach.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Chile:*** Glutacyl Vitaminado; ***Thai.:*** Hemo-Cyto-Serum.

Motherwort

Agripalma; Agripaume, herbe de; Hjärtstilla; Leonuri cardiacae herba; Leonuri Herba; Leonurus; Motherwort Herb; Nukula; Srdečníková nať; Sukatžolių žolė.

Pharmacopoeias. In *Eur.* (see p.vii). *Chin.* includes the fruit.
Ph. Eur. 6.2 (Motherwort). The whole or cut, dried, flowering aerial parts of *Leonurus cardiaca*. It contains not less than 0.2% of flavonoids, expressed as hyperoside ($C_{21}H_{20}O_{12}$ = 464.4) calculated with reference to the dried drug. Protect from light.

Profile

Motherwort is given in herbal medicine for nervous and cardiac disorders; it is also used in products promoted for mild hyperthyroidism.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Austral.:*** Pacifenity†; Valerian†; ***Austria:*** Thyreogutt; ***Canad.:*** Thunas Tab for Menstrual Pain†; ***Fr.:*** Biocarde; ***Ger.:*** Biovital Aktiv†; Biovital Classic; Mutellon; Oxacant N†; Oxacant-sedativ; ***Hung.:*** Biovital†; ***Pol.:*** Biovital N; Klimax†; Lumewal; Nervinolum; Nerwobonisol; ***Switz.:*** Tisane pour le coeur et la circulation; ***UK:*** Menopause Relief; Modern Herbals Stress; Period Pain Relief; Prementaid; Quiet Life; SuNerven; Wellwoman.

Moxaverine Hydrochloride *(BANM, rINNM)*

Hidrocloruro de moxaverina; Meteverine Hydrochloride; Moxavérine, Chlorhydrate de; Moxaverini Hydrochloridum. 1-Benzyl-3-ethyl-6,7-dimethoxyisoquinoline hydrochloride.

Моксаверина Гидрохлорид

$C_{20}H_{21}NO_2,HCl$ = 343.8.
CAS — 10539-19-2 (moxaverine); 1163-37-7 (moxaverine hydrochloride).
ATC — A03AD30.
ATC Vet — QA03AD30.

Profile

Moxaverine hydrochloride has a similar structure to papaverine (p.2191) and has been given by mouth and injection as an antispasmodic and in vascular disorders. The base is also used as an antispasmodic.

Doses of moxaverine hydrochloride of up to 300 mg three times daily by mouth have been suggested for the treatment of vasospastic disorders; it has also been given by intravenous infusion.