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Aim

To report the incidence of enquiries to the NPIS concerning calcium channel blocking (CCB) drugs in England and Wales.

Method

Records of telephone enquiries received from England and Wales by the NPIS between 1 January 2009 and 31 December 2013 were reviewed. Enquiries involving CCB drugs were examined and those from hospitals were analysed further for details regarding admission to ITU, features, treatment modalities and outcome.

Results

General summary

- **Total:** 2865 CCB enquiries = 1% of all NPIS enquiries (226,940)
- **Age:** Except for a small peak of accidental ingestions by children under 5 years, enquiries regarding CCBs increased with age
 - Patients over 70-years-old accounted for 42% of enquiries
- Verapamil accounted for all the fatalities where only one substance was ingested

Fig.1 Percentage of enquiries involving each drug



510 enquiries (concerning 427 patients) were from hospitals regarding symptomatic cases

Of these:

- 358 intentional, 24 accidental, 23 due to therapeutic error and 22 due to other circumstances
 - 185 were admitted to intensive care
- CCBs taken alone accounted for 65 cases. In two cases it was unclear if other drugs were taken, while 360 cases involved multiple drugs

Fig.2 Symptoms reported time of enquiry or follow up

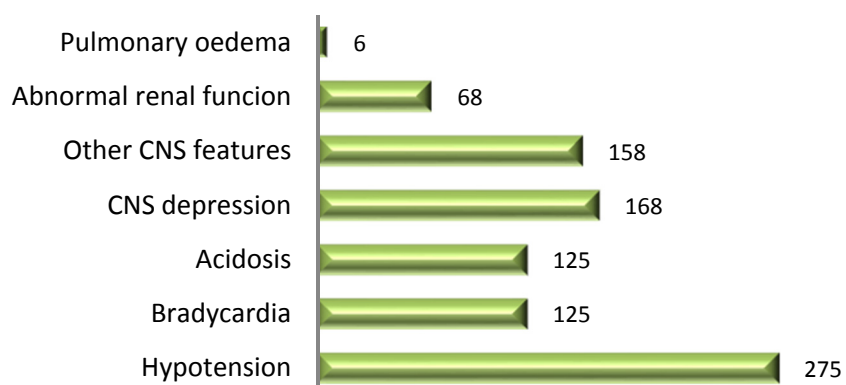
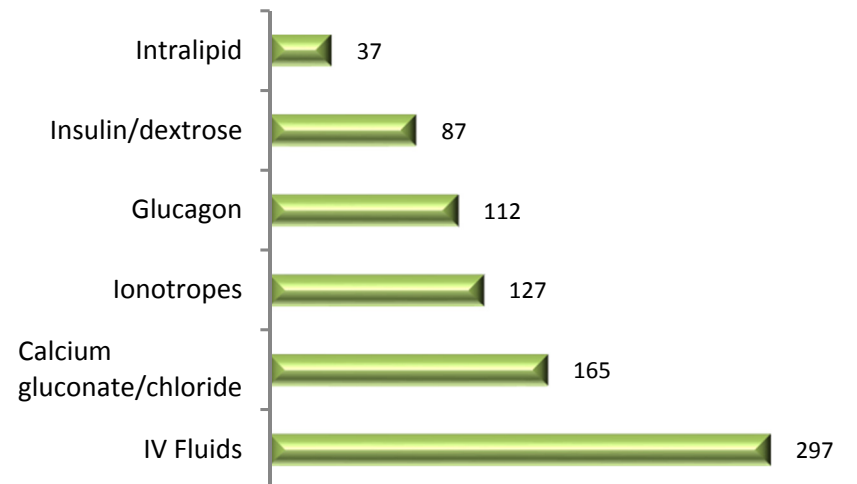


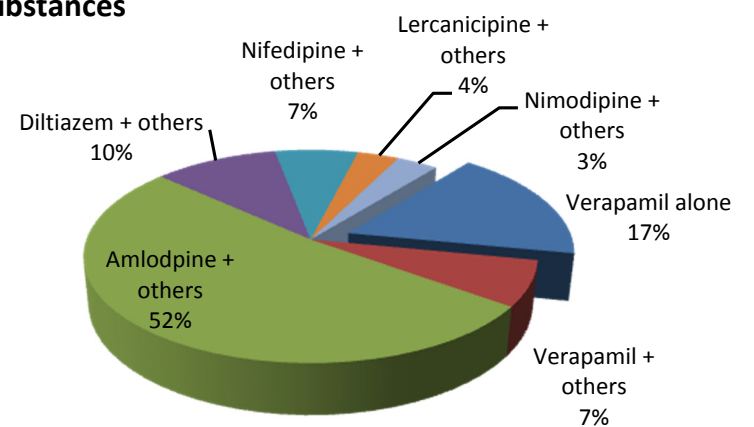
Fig.3 Treatments reported



Fatalities (n=29)

- 17 male v 12 female
- 25 were intentional overdoses

Fig.4 Fatalities related to CCB alone or in combination with other substances



Data indicate a case fatality index of 3.95% for verapamil and 1.0% for amlodipine (p=0.0064; using a 2-tailed Fishers exact test).

Discussion

CCB drugs account for a small proportion of deaths reported in cases discussed with the NPIS, and commonly involve multiple drug overdose. Amlodipine is the most frequent substance reported but a much higher proportion of verapamil enquiries result in death and accounted for all the deaths where only one substance was taken. This may reflect inherent differences in toxicity, but may also reflect different demographics and underlying medical conditions. Linking these findings to prescribing and demographic data would allow consideration of relative toxicity.