PENTAZOCINE ABUSE: REVIEW AND A REPORT ON EIGHTEEN CASES

SHEKHAR SAXENA
D. MOHAN
ADITYANJII

SUMMARY

Pentazocine is usually not recognised as a dependence producing drug, in spite of accumulation of a number of case reports on Pentazocine abuse and dependence in the world literature. The present paper briefly reviews earlier reports in this area and describes eighteen cases with parenteral Pentazocine abuse seen in a general hospital of Delhi over a short period of time. These cases form a spectrum from isolated abuse in patients with chronic pain to Pentazocine being just another drug in the setting of multiple addictions. Recommendation is made for more judicious use of Pentazocine in view of its high dependence potential.

History of Medicine is replete with examples of substances which were introduced as harmless drugs, but later proved to have considerable abuse and dependence potential. Heroin and Pethidine are two well known drugs of this type. With the introduction of a large number of synthetic and semisynthetic opiate congeners the chances of such pharmaceutical misadventures have increased substantially. Fuller realization of the abuse potential of a drug frequently comes after it has been used for a number of years or even decades. Therefore, a constant monitoring for this unwanted and dangerous effect is needed, for all suspect drugs (W.H.O., 1975).

A considerable number of reports have accumulated over the years on the abuse of Pentazocine, which is being used very widely in the medical and surgical practice in the last decade. The present paper briefly reviews the literature in this area and reports a series of eighteen cases of Pentazocine abuse seen in a general hospital of New Delhi.

Review

Pentazocine has been in clinical use for about fifteen years. The first case report of Pentazocine abuse appeared within one year of clinical use (Keup, 1968). After this a steady stream of reports have been published in the international literature 1970; Alarcon et al., 1971; Levy et al., 1972; 1973; Halliday, 1973; Kirts, 1973; Parwatikar et al., 1973; Swanson et al., 1973; 1975; Waldmann and Horsfall, 1977; King and Betts, 1978). Most of these communications are case reports of one to four patients; however, a few series are larger and describe patients collected over a number of years. Reports published until the mid-seventies were mostly of cases which were either clearly iatrogenic or the patient was himself a medical professional. However, beginning 1978, street abuse of Pentazocine has been described (Polkis, 1978; Showalter and Moore, 1978; Bailey, 1979; Lahmeyer and Steingold, 1980) generally in combination with other drugs like Triphenllenamine.
Psychological craving and strong drug-seeking behaviour has been demonstrated by almost all the reports; however, presence of tolerance and physical withdrawal symptoms is controversial. Swanson et al, 1973; Waldmann and Horsfall, 1977; King and Betts, 1978; Council on Drugs, AMA, 1969. Withdrawal symptoms described, are similar to, but milder than those seen with Morphine or Heroin.

A number of serious complications of prolonged Pentazocine administration have been reported. Severe induration and sclerosis of skin and subcutaneous tissues with granulomatous inflammation has been described, associated with repeated injections (Palestine et al, 1980). Intravenous administration of crushed tablets can result in pulmonary granulomas, embolism and pulmonary edema (Ali and Bauxs, 1973; Butch et al, 1979; Houck et al, 1980). Other complications of Pentazocine misuse are summarized by Lahmeyar and Steingold (1980).

Case Material

All the eighteen patients were seen within a period of two years in the All-India Institute of Medical Sciences Hospital, New Delhi. Out of them 16 (88.8%) were males and 2 (11.1%) females. A majority of 12 (66.6%) were between 21 and 40 years of age and 15 (83.3%) were married. The distribution for occupation showed some interesting observations. Eight (44.4%) were doctors, 2 (11.1%) pharmacists and 1 (5.5%) was a medical student. Five were employed in other non-medical professions and 2 (11.1%) were unemployed.

The total duration of Pentazocine abuse was less than one year for 7 (38.8%), one to two years for 6 (33.3%), two to three years for 4 (22.2%) and more than three years for 1 (5.5%) patient. Quantities consumed every day varied from 30 to 90 mg for 2 patients, 90 to 180 mg for 3 patients, 180 to 360 mg for 10 patients and more than 360 mg for 3 patients.

Table 1 gives the number of patients who were abusing other drugs or alcohol on a regular basis apart from Pentazocine; the total number in this table being more than 18 as some patients were abusing many drugs simultaneously. All the patients were administering Pentazocine parenterally, usually by intravenous route.

| Table 1 | Misuse of Other Drugs |
|---------|-----------------------|
| Morphine | 1 |
| Pethidine | 6 |
| Sedatives | 6 |
| Cannabis | 1 |
| Alcohol | 4 |
| No other drug | 6 |

A number of patients had pre-existing illness, physical or psychiatric and these are summarized in Table 2.

| Table 2 | Pre-Existing Illness |
|---------|----------------------|
| Physical |                     |
| Inguinal hernia | 1 |
| Chronic backache | 2 |
| Hiatus hernia | 1 |
| Chronic pancreatitis | 1 |
| Post-laparotomy adhesions | 1 |
| Renal colic | 2 |
| Gastric ulcer | 1 |
| Chronic tongue ulcer | 1 |
| Henoch-Schonlein purpura | 1 |
| Angina Pectoris | 1 |
| No physical illness | 6 |
| Psychiatric |                     |
| Affective disorder-Bipolar | 1 |
| Psychopathic Personality Disorder | 1 |
| No other psychiatric illness | 16 |

Some of the major physical complications of Pentazocine misuse seen in this group of patients are skin ulcers (10),
cellulitis (4), accidents (2) and seizures (1).

Management was attempted in the inpatient setting for majority of patients and consisted of sudden withdrawal of Pentazocine, symptomatic treatment of withdrawal effects by non-opiate drugs, investigations and vigorous management for pre-existing physical illness and supportive psychotherapy. The outcome of management is summarized in Table 3.

Table 3

| Outcome of Management                                      | Number |
|------------------------------------------------------------|--------|
| Terminated treatment against medical advice                | 9      |
| Successful withdrawal but no follow-up available            | 4      |
| Successful withdrawal with abstinence at 6 month follow-up  | 5      |

Discussion

Collection of eighteen cases of Pentazocine abuse from a single hospital in a short period indicates that this condition is not as rare as hitherto believed. It is possible that abuse of Pentazocine is not recognized commonly because of inadequate perception of this problem by medical professionals.

The present series of cases is restricted only to parenteral abuse of Pentazocine. The amount of drug consumed by most of the patients was much higher than the routine therapeutic dose, indicating the development of tolerance. Withdrawal symptoms were present in all patients even when the possible effects of other opiate withdrawal were excluded. These symptoms were typically mild to moderate in intensity and consisted of sleeplessness, restlessness, irritability, tremors, generalized bodyache and increase in any pre-existing local pain. Psychological craving for the drug was intense in all the regular abusers. Frequently, they pleaded for 'one more injection' or managed to get some through a sympathetic relative, in the withdrawal period.

The patients of the present series can be roughly divided into two categories on the basis of their pattern of abuse.

I. Abuse related to chronic pain: These patients had some chronic painful physical illness and the beginning of Pentazocine use was related to relief of pain. However, subsequently, the high dose, the frequency of administration, withdrawal effects and the intense drug seeking behaviour clearly indicated that the drug was no more being taken for relief of pain only. Withdrawal from the drug was extremely difficult and mostly unsuccessful because patients insisted that they were taking Pentazocine only for pain relief. They refused to accept the presence of abuse or dependence, hence did not co-operate in treatment. Most of these patients discontinued treatment against medical advice after a variable interval of time.

II. Abuse unrelated to pain: These patients had abused other drugs also and they were administering Pentazocine only for its pleasurable psychological effects. Pentazocine was used by some patients as a substitute for Pethidine, when the latter was not available. This observation is significant as Pentazocine is known to be a partial antagonist of Morphine and alkaloid drugs, capable of inducing withdrawal syndrome. Three patients were abusing 'Mandrax' (a combination of Methaqualone and Diphenhydramine) also, however, it was not being taken simultaneously with Pentazocine. Withdrawal from Pentazocine was successful in most of patients in this group, however abuse of other drugs continued.
The high proportion of medical and related professions in this series is explainable on the basis of knowledge and easy availability of Pentazocine to them. However, what is significant is that the abuse is not limited to these professions and a number of patients from other occupations have also been abusing Pentazocine. Keeping in view the extensive use of this drug in medical, surgical as well as general practice and its almost unrestricted availability, Pentazocine abuse may become a serious problem in the coming years. Hence there is need for more judicious use of this drug by medical profession as well as more strict control on its sale by the relevant government agencies.

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