

ADDICTION OR PSEUDOADDICTION IN SICKLE CELL DISEASE PATIENTS: TIME TO DECIDE - A CASE SERIES

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ABSTRACT

Objective: The objective of this report is to highlight the background factors associated with opioid abuse among Sickle Cell Disease (SCD) patients.

Patients: Eleven patients aged 13-53 years (mean, 26.1yrs) which included six female and five male were seen in the last six year at a tertiary health facility. The modes of abuse ranged from obtaining analgesic prescription from multiple sources, injecting analgesics and sharing analgesics between patients in the hospital.

Results: Five female had either avascular necrosis of the femoral head or pathological fracture secondary to chronic osteomyelitis, so were classified as pseudoaddiction while five male and one female without any identifiable cause of chronic pain were adjudged to be addicted to opioids. The role of a dysfunctional family background in the response of SCD patients to pain treatment and substance abuse is highlighted.

Conclusion: These cases reveal drug abuse as an emerging or understudied problem among SCD patients and its association with chronic pain in some patients. It is therefore necessary for pain physicians and SCD experts to address the use of opioid in chronic sickle cell pain and provide alternatives and a suitable guideline for their use.

Keywords: Opioid, chronic pain, sickle cell pain, psychosocial issues, substance abuse

INTRODUCTION

Sickle cell disease (SCD) is a genetic disorder characterized by recurrent acute painful episodes, the prevention and treatment of which is central to the management of the disorder. Opioids are often used in the management of these painful episodes; the extent of its use in the management of pain in this disorder is an issue of debate. Some physicians advocate minimal use of these drugs for fear of addiction^{1,2} while others believe that the under use of these medications in the control of pain may result in pseudoaddiction.^{3,4} There have also been reports in the literature of substance abuse by SCD patients,^{5,6,7} though it is believed that the rate of drug abuse by SCD patients is not different from that of the general public.⁸ We report eleven cases of opioid abuse seen in a tertiary institution of a developing country over a six year period and highlight the role of chronic pain and a dysfunctional family background in this emerging problem.

Summary of the cases

Thirteen patients were seen over the six-year period but the case notes of two female patients were missing thus their data were not included in this presentation.

The patients presented here have a mean age of 26.1 years (a range of 13-53 years) and included six female and five male. The duration of abuse ranged from six months to five years, while the duration of abuse could not be ascertained from four patients. Pentazocine, a weak opioid which is readily available as an over the counter drug is the drug mostly abused, only two patients abused meperidine (pethidine) along with pentazocine. Those who misused meperidine either forged the signature of a doctor or used multiple prescriptions to obtain the drug. Five patients are from single parent homes while two are orphans with one living in an orphanage. The patients can be classified into two broad groups; those who had chronic pain because of comorbidities and those in whom there was no identifiable cause of chronic pain. There were five patients in the former category and six patients in the latter. All five patients in the first category had one form of bone complication warranting the use of analgesics while all but one (patient with priapism) in the second group had no associated comorbidity. All patients in the first category were therefore seen in the hospital for the comorbidity and the drug abuse secondarily discovered by nurses or doctors, but those

Background Information on Sickle Cell Disease Patients Abusing Opioids (Pentazocine)

Cases	Age (yrs)	Sex	Estimated Daily Dose (mg/day)	Type of Chronic Pain	Duration of Abuse (yrs)	Family Background
1	25	F	120	Avascular Necrosis	5	Lives with mother
2	14	F	60	Avascular Necrosis	1	Lives with mother
3	20	M	300	Nil	3.5	Lives with both parents
4	21	M	-	Nil	-	Lives with mother
5	40	F	-	*Pathological fracture	1	Lives alone
6	18	F	-	Nil	3	Lives in an orphanage
7	29+	F	240	Avascular Necrosis/Cholelithiasis	4	Lives with mother
8	53+	M	300	Nil	-	Married with children
9	13	M	-	Priapism	0.5	Lives with mother
10	28	M	-	Nil	-	Lives with parents
11	26	F	-	*Pathological fracture	-	Orphan, lives alone

*Pathological fracture was secondary to chronic osteomyelitis and the avascular necrosis involved the femoral head

+ Also abused Meperidine (Petbidine) at some point

in the second category were brought to the hospital by relatives for abusing analgesics. Two of the patients had to sell personal belongings to sustain the habit. The mode of abuse ranged from obtaining analgesic prescription from multiple sources, injecting and sharing analgesics while on admission in the hospital or forgery of doctors' signatures. The mean duration of abuse in the first group was 2.8 years compared to 2.3 years in the second group, all the patients in the first category were female while there were five male and one female in the second category. Follow up was poor in these patients, though they were referred to a drug rehabilitation facility, it cannot be ascertained that they remained free of the abuse, two patients refused to keep appointment with the therapist because of the fear of stigmatization. The commonest complication is pyomyositis at the site of injection which was seen in two patients, another patient developed a pseudoaneurysm with multiple arteriovenous fistulae around the brachial artery from inadvertently injecting the drug into the brachial artery.

DISCUSSION

Addiction to opioid is defined as a persistent pattern of dysfunctional use that may involve adverse consequences, loss of control or preoccupation with obtaining opioids despite adequate analgesia⁹ while Pseudoaddiction is an iatrogenic syndrome of an

abnormal behavior developing as a direct consequence of inadequate pain management.¹⁰ Six of the cases are classifiable as pseudoaddiction since they were associated with pathological conditions that may be a source of chronic pain; these include avascular necrosis usually of the head of the femur or pathological fracture resulting from chronic osteomyelitis.

Avascular necrosis which results from a compromise of the blood supply to the head of the femur is a painful condition which is insidious in onset and gradually affects the gait of the patients; the ultimate treatment is hip replacement which is an expensive procedure. This complication has been reported in up to 30% of patients,¹¹ but the extreme form which affects the gait of the patient is seen in 8% of our cohort of patients.¹² When surgery cannot be performed immediately because of cost, palliative care is given in the form of hospitalization with the patient on skeletal or skin traction and analgesia is given and may last for at least two months. A similar bone complication is chronic osteomyelitis with or without pathological fracture, the management of which is similar to that of avascular necrosis except that this is curable with the use of antibiotics and the required surgery is not as expensive as hip replacement. Five of the patients were on admission for these bone complications and the abuse was noticed while on

admission, these may therefore be cases of pseudoaddiction since the analgesia provided may not have been adequate for the degree of pain experienced by the patients.

Stuttering priapism and cholelithiasis noticed in one patient each are other chronic painful complications noted in these patients. It is difficult to classify these two complications which affects 23% and 24% of SCD patients respectively^{13,14} as causes of pseudoaddiction since most patients with these complications rarely complain of pain warranting the use of opioids. Again, only one patient each presented with these complications. The patient with cholelithiasis also had avascular necrosis which is a more likely reason for the drug abuse, making it difficult to ascribe the pseudoaddiction to the cholelithiasis. The psychological effect of treatment failure associated with priapism is more of the problem than the accompanying pain seen in the youngest patient.

The difficulty in distinguishing between addiction and pseudoaddiction in these cases may be due to the fact that both are superficially similar such that there is a misunderstanding about the term addiction^{4,8} especially in patients with pain where the traditional criteria may not be appropriate.¹⁵ For this reason, abuse rates cannot be definitely determined in patients with chronic pain, and the diagnosis of addiction is almost entirely through knowledge of the patient's history.¹⁶ Regardless of this the incidence of addiction or pseudoaddiction is similar in this cohort of patients. Mistrust between the patient and the health care team, the third phase of pseudoaddiction¹⁷ could account for why a patient on admission for chronic pain would be unwilling to request for adequate analgesia but rather resort to injecting one another with opioid or forging the signature of the doctor to obtain prescription. However, addiction could not be ruled out as the reason for the abuse in the six patients in the second group who were identified by relatives, and were therefore brought to the hospital with the complaint of drug abuse. In addition there were no identifiable causes of chronic pain in the patients, and again two of them admitted to selling personal belongings to enable them purchase the drugs.

The usefulness of opioid in the treatment of the acute painful episodes of SCD is not in doubt but this may not hold true for the chronic pain which may also occur in the disorder. It should be noted that both types of pain may occur concurrently or sequentially with the later sometimes spanning months or years. It may therefore be necessary to review the use of opioids in chronic disorders like sickle cell disease which is a lifelong disorder associated with recurrent painful

episodes especially since its use for chronic pain may last for years. It should be noted that the use of opioids for chronic non-cancer pain has increased in the last two decades, with a significant increase in opioid dependence.^{16,18}

The psychosocial background of the sickle cell disease patient plays a significant role in the patient's ability to cope with the disease but the role of this in the patient's perception of pain and response to pain therapy is yet to be fully elucidated. These cases suggest that parenting and family background may play a significant role in the experience and management of pain by the adult sickle cell disease patient. The gender bias in these patients is difficult to explain and may be due to sampling variation or arise by chance but it appears that male patients are more likely to be addicted to opioids while pseudoaddiction is more likely with female patients.

It is therefore necessary for pain physicians and SCD expert to address the use of opioid in chronic non-cancer pain especially when occurring in disorders like SCD that is non-terminal and which may be compounded by comorbid states that may last for years. Nurses and physicians should also respond promptly to pain in these patients and so earn the trust of these patients so that they can be informed appropriately when their need for pain control is not being met.

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