

Notes on the Effects of Morphine

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The following unpublished essay is “[a]n example of how FWP the scientist used his illness to make clinical observations on himself with his description of his reactions to injections of morphine. This document was completed in October, 1927, five days before his death, and is a unique and vivid record of one patient’s response to the powerful narcotic.” This is an extraordinary piece. Why it was never published is a great mystery; but may lie in the fact that morphine is a much-maligned drug. Herein, we see how it allowed FWP to be lucid and function masterfully until the end.

The immediate effect of a dose of morphine depends apparently not only on personal idiosyncrasy, size of dose, tolerance, etc., but also on the condition of the individual patient – whether or not he has pain or discomfort, is excited or is already tending to go to sleep. Thus the results observed by any one person may vary somewhat from those observed by another.

My own experience with morphine began in May 1927 when I received it on account of sharp pain resulting from pleural and peritoneal friction rubs. When these sharp pains had disappeared there remained a certain amount of discomfort caused by an abdominal neoplasm, and I suppose that I had already begun to acquire a certain amount of addiction. At any rate I know that I was glad to receive the injections and that my general well-being decreased progressively as time went on after the last dose. I always felt worse when I woke up in the morning, during the months of June and July this was 16 or 17 hours after the last dose, which I had received at about 4 o’clock on the previous afternoon. I do not know anything about the size of the dosage but this information can be obtained from my physician. It seems to me that the sensations on awakening and before receiving the first dose in the morning represent the first stage of the symptoms of “withdrawal” in an addicted person. I am told it is extremely difficult to get an adequate story from an addict of how he feels when he is not receiving enough of the drug. I can now fully understand why this is so. The sensations are extraordinarily vague. The main thing is a feeling of general weakness, both muscular and nervous. It was my custom to get up and go into the toilet where my bowels moved and I brushed my teeth, washed my face and took a short sponge. At the end of this I felt “all in” and I wanted to get back to bed as quickly as possible. I had no pain, but was very conscious of the discomfort caused by the neoplasm; in general it was very difficult to distinguish symptoms which might be due to the disease from those which were due to a lack of the drug. I felt “rottenly,” “mean,” “like a work” – the lowest form of human life. Even while attempting

to describe my sensations, at the very time, it was impossible to describe the situation more satisfactorily or accurately. Muscular weakness was very striking and I wanted to be helped onto the bed. Weakening of morale was even more evident, sometimes after getting back to bed and getting comfortably settled I would find myself groaning as if were suffering and I would say to myself, "You damn fool! You don't have to groan, you are not particularly uncomfortable and there is no reason for you to try and get up sympathy for yourself." A certain amount of this moral weakness could unquestionably be controlled by will power, but by no means all, and as the weeks have gone by and I have become more and more definitely dependent upon the drug I feel sure that the moral weakness is a very real thing and is not due to "quitting." When my wife came with the syringe she looked like an angel, for I know that I was to be lifted out of this extraordinary, weak, depressed phase. During the first weeks the injection was followed immediately by a general sensation of flushing and tingling in the arms and legs, and I was reminded of the patients who so often say, "Doc I feel the drug going all through my system." I have always felt that this was their imagination because it occurs so quickly after the injection, but something was felt by me very definitely, although it was a slight matter and disappeared entirely after the first few weeks.

The first definite effect of the injection has occurred with striking regularity about four minutes (3 to 5) after the injection, at this time very disagreeable sensations developed which are again not entirely easy to describe. They are largely abdominal in character and consist of discomfort, nausea, and what I have come to conclude must be hyperperistalsis of the stomach or intestines. Once, when I was nauseated before receiving the injection, I was made to vomit by it, and several times I thought I might vomit. This immediate effect is, therefore, exactly opposite to the general effect of morphine on the intestines. I should have mentioned above that one of the most striking symptoms at the end of the long interval without morphine was an increase of peristalsis which made it possible for me to get a good movement of the bowels.

The uncomfortable symptoms which develop four minutes after the injection, with such extraordinary regularity, seem to have become less marked as I have gone on taking the drug. They may depend on the dosage. They have certainly become marked since I have received a dose in the evening so that the interval before the morning dose was 10 or 12 hours instead of 16 or 18 and the general letdown was less. These early symptoms last from one to two minutes and their duration is remarkably regular. At the end of about eight minutes I first begin to get a general effect from the drug. The "rotten" feeling and the nervous irritability which may have shown itself in a lack of control over what I say, disappears and is replaced by a wonderful sensation of peace and serenity. In the early days this was particularly noticeable and I was conscious of an extraordinary sense of dissociation of mind and body. I felt that anybody could have my old lumpy body for a nickel and that I would go on living a life of pure spirit. This definite type of sensation has become much less evident but a sense of general well-being which results from not feeling my bodily discomfort, and from having a more normal mental outlook has persisted. I think this shows itself objectively best in the fact that after ten or fifteen minutes, I begin to talk a little or to look through a book, whereas before I had not wanted to speak or to read. From this point on there is a gradual return to a normal feeling.

The only striking morphine effect which I have observed is on my respiration. Here it must be noted that I seem to have a very labile respiratory center with a distinct

tendency towards the development of Cheyne Stokes breathing. I have observed, for instance, for several years that this type of respiration is very apt to occur just as I am going to sleep. This is of course a perfectly normal phenomenon. As the morphine wears off there is a tendency to the development of rapid, shallow respiration and this has been particularly noticeable to me because the vital capacity of my lungs is very much reduced at present and I am conscious of a degree of shallow breathing that a normal person would not feel. Twenty to thirty minutes after the injection of morphine I become aware of the effect on the respiration. It is more slow and seems to be deeper. At any rate it is infinitely more comfortable. Usually a type of periodic breathing develops if I am lying undisturbed. The periods of apnea are short and the subsequent periods of dyspnea usually consist of about six to twelve respirations. Of course I know how inaccurate observations made on one's own respiration are, but I have had so much experience with myself that I am sure these are worth something. I have often had periodic breathing with rapid, shallow periods of dyspnea and some discomfort before receiving the morphine. Although the morphine may merely increase the periodicity, it nevertheless brings with it a sense of great comfort because the respiration is slower and the excitability of all the other higher centers is lowered. This is of course in harmony with the common clinical experience that morphine is the best immediate treatment for periodic dyspnea.

So much for the immediate effects of the injection of a single dose of morphine in a person who has acquired a moderate degree of tolerance. The subsequent effects depend upon the relationship between dosage and tolerance. If I am given an unusually large dose I get the narcotic effect and go to sleep. As a matter of fact most of the time the dosage has been carefully arranged so as to avoid this result. When I do go to sleep shortly after getting my dose I never feel quite certain as to whether my somnolence is due to the drug or is the result of my general fatigue. In general the drug has been given to me with the idea of promoting my general sense of physical and mental well-being so that I might carry on a life that is as nearly normal as possible. With this in view, does that would produce somnolence have been strictly avoided. I have already said that about eight minutes after my morning dose I begin to feel very much better. Such physical discomfort as I have had disappears and I become unconscious of little bodily aches and pains. At the same time my spirits begin to arise, the depression disappears, I begin to read or am glad to be read to. At the end of twenty minutes or so I feel like an entirely different person and from then on there is a slow but gradual improvement in my general condition. I think the height of the morphine effect is reached in four hours, or a little less and from then on there is a fall off which manifests itself chiefly in an increase of fatigue and a consciousness of the size and dragging of my abdomen. Then, unless I get another dose the whole cycle of withdrawal symptoms begins again – fatigue, sensation of muscular weakness, mental depression, irritability, lack of initiative, general feeling of “meanness.” Increased consciousness of bodily sensations, onset of gastric and intestinal peristalsis, development of a slight degree of dyspnea (apparently due to rapid and shallow breathing) sometimes associated with periodic breathing. I have said that the height of the morphine action seems to come in about four hours or less. This does not mean, however, that one has any particular desire for another dose at this time. Until the degree of addiction has become much more marked the interval between doses may be very much longer without any discomfort. One point, however, is very definite with regard to the length of action of a single dose and it has very directly dependent on what

the patient is doing: thus a given dose will produce a beneficial action for a very much longer period of time if the subject is at rest or is asleep, than if he is either physically or mentally active.

One further point with regard to the general late action of morphine. There is a very common idea, derived from the writing of DeQuincey and Coleridge, that morphine has a strange, stimulating quality and produces weird and beautiful dreams. It is of course true that if one has large doses one does get very curious visual and cerebral effects. One of the first of these is that as soon as one closes his eyes he sees strange, shifting patterns of color and at other times he hears voices and is quite certain that people are in the room when he is actually alone. Occasionally when I have received, on account of sever pain, doses of morphine that were large in proportion to my degree of tolerance at the time, I have even had rather more systematic dreams, I can well understand imaginative writers having something that would give them a start on a poem. I am told that at the time when these dreams were most striking I was also getting Luminal (Phenobarbital), but I'm not aware of Luminal producing such an effect. At any rate this type of cerebral symptom is the result of a use of the drug which is quite different from what I have been aiming at this summer. When morphine is used as we have been using it I do not think it is a true stimulant in the proper sense of the word. The morphine seems to me to lift me out of a hole and to restore me to my true normal. I do not feel particularly euphoric and I am told that I do not appear to be abnormally stimulated. In general I think I am brought back to my best normal intellectual level and to an improved physical level. As far as I know Sandoz, in an article that is referred to in a volume published by the Committee for the Study of Opium Addition, is about the only person who has called attention to the fact that morphine differs from other drugs in that the subject shows symptoms when he is not receiving it, rather than, like alcohol, when he is under its influence. Of the general truth of this statement I am quite convinced. I can well understand how a business man or a doctor can go on taking doses of morphine without its being noticeable to those who are closes to him. The drug merely makes him unconscious of any sense of fatigue and thus enables him to drive at top speed and with his maximum, normal efficiency. Of course the situation is somewhat different when the drug is being taken by an otherwise perfectly normal individual, but in my own case the overcoming of the sense of fatigue is one of its most striking and beneficent actions.

By October 8th, the date on which these notes are written, I have become very much more dependent on morphine, but there has been no change in the mode of action of the drug. Practically everything that I have said above hold good today and the only difference is that the symptoms begin to develop after a very much shorter interval and I suppose they need a considerably larger dose in order to quiet them I still do not know anything about the dosage. When Sir William Osler wished to order morphine for a patient and did not wish to patient to know hat he was talking about, he always referred to G.O.M. and the letters stood for "God's Own Medicine." My own professional and personal experience has shown me that morphine is the gift of God, but depending upon how it is used it may be either "God's Own Medicine" or "The Devil's Own Poison."