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THE USE OF HYPNOSIS AS AN ADJUNCT IN SURGERY *

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Prior to the advent of chemoanesthesia in 1846, hypnosis, then known as mesmerism, was popular as a surgical analgesic and anesthetic. The first recorded uses of hypnoanesthesia were in 1821 by Recamier, who performed operations on patients under mesmeric coma (27). Cloquet performed a breast amputation before the French Academy of Medicine in 1829 using mesmerism (18). Between 1840–1850 James Esdaile (11) performed several thousands of operations under hypnosis, of which about 300 were major operations including cataracts, amputations and scrotal tumours. Sampimon and Woodruff (23) described 29 surgical and dental operations successfully performed under hypnosis while in a prisoner-of-war camp in Singapore in River Valley Road during the Japanese Occupation. These dramatic operations under hypnoanesthesia tend to create the impression that this is the only use of hypnosis in surgery. However, the greatest value of hypnosis in surgery is to reduce preoperative medication and chemoanesthesia. There are also other pre- and post-operative advantages. During the past few years many interesting papers have appeared in medical literature reporting the value of hypnosis (4, 7–10, 12, 15, 16, 18, 20, 24, 26, 29).

Our cases are of exploratory nature. We are greatly encouraged by the results, and we hope to do a larger series.

Methodology:

Surgical patients are remarkably good subjects for hypnosis. The patients are hypnotised and conditioned before going for surgery. The whole surgical procedure is explained to the patient at a waking and hypnotic level, so that he expects every step without any surprise and fear. Doubts, fear, apprehension and anxiety are eliminated, and post-hypnotic suggestions of well-being during the post-operative convalescent period are given. The first session, including the time spent for the pre-induction talk, takes about 30–40 minutes. Subsequent sessions take only 10–15 minutes Normally 1–2 sessions are sufficient. It is possible to condition patients in groups to save time. Further sessions during the post-operative period may be required to reinforce the suggestions.

Cases:

CASES 1. A Chinese woman, age 58, was advised elective cholecystectomy. She was a hyperreactive, emotional type of woman. Ten years ago she had a breast abscess incision "under gas" which terrified her very much. The idea of taking out her gall bladder also disturbed her because to the Chinese a person without a gall bladder — no "Tarm" — is a person without courage and is easily frightened and a coward. She was given five hypnotic conditionings. She went to hospital calm and relaxed. No night's sedation and no premedication were given. She had only 75 mgm. of thiopentone for induction and the whole operation was carried till finish with only gas and oxygen. Muscle relaxant used was only 12 mgm. of Di-Allyl-Nor-Toxiferene. Dryness of the mouth, throat and nasal passages had been suggested during the conditioning period, and no atropine was used; the anesthetist was struck by the dryness of the mouth throughout the operation. She had no post-operative pain the whole of the convalescent period except 5–6 hours after the operation, when she complained of epigastric pain (she used to have similar pains before and the long starving before and after operation probably aggravated it). Antacid and milk were ordered and 50 mgm. of pethidine were given at the same time. She was ambulant the day after operation, and asked to be discharged on the second post-operative day. She went home on the third post-operative day. Follow-up of the convalescent period was uneventful.

CASE 2. Another Chinese woman, age 49, was conditioned hypnotically for cholecystectomy. Originally she was investigated in another hospital and found to have gall-stones. The doctor who found her blood pressure raised, did an E.C.G. which showed some

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myocardial ischemia, and hinted to her the possible risk; and she turned down the operation. She heard about the successful operation on the first case through a friend, and she decided to use hypnosis to help her in her operation. Going into her history it was learnt that she had a series of unfortunate events in her life, which made her a very nervous woman, always suffering from headaches, palpitations and insomnia. About 10 years ago her husband's business failed. Then, not long after she was badly scalded and nearly lost her life; she was hospitalised for three months. Soon after discharge from hospital, she was involved in a car accident — the bus in which she was travelling up country overturned. Though only bruised, she was very much frightened. Six months later her father died, followed soon by her mother. When she was first examined, she had a B.P. of 180/110, she was nervous and had palpitations and insomnia. She had a total of four hypnotic conditionings, and before she went for surgery the B.P. had come down to 120/80, she had no palpitations and slept well in hospital before and after surgery. No premedication was given. On the table she was hypnotised, 10 mg. of Di-Allyl-Nor-Toxiferene were given, the endotracheal tube was passed and the anesthesia was maintained with gas and oxygen. No other drugs were given during the operation. After the operation she had only 25 mgms. of pethedine. There was no vomiting or other complication, and she was ambulant the day after operation.

CASE 3. A married Chinese woman, age 28, was admitted to hospital with a toxic goitre for elective thyroidectomy. She underwent a subtotal thyroidectomy under hypnoanesthesia alone. This is believed to be the first case reported in South-East Asia. She had a diffuse swelling of her thyroid for the past two years. She was a hyperactive woman, and in spite of much sedation with phenobarbitone and amylobarbitone she was still unable sleep. Her sleeping pulse was 100–120. She was given a total of seven hypnotic conditionings and was able to enter a somnambulistic trance. After hypnosis was started, although all sedation was withdrawn, she was able to sleep though her sleeping pulse remained the same. On the morning of operation she was taken to the operating room very calm and relaxed. The entire procedure, the removal of both sides of the thyroid which extended far back into the neck, was performed without discomfort except for the period of traction on the trachea when she groaned a bit. The entire operation took 70 minutes. Immediately after surgery she was able to sit up, talked and walked down from the operating table to the wheel chair. She made an uneventful recovery, and required no analgesic drugs during the post-operative period. A few days after the operation she complained of itchiness of the scar wound. The hypnotic session stopped the itch for her.

CASE 4. A 28-year old Chinese School teacher had a thyroid adenoma. He was given only one session the evening before the operation. No sedation for the night and no premedication were given. 100 mgm. thiopentone were used for induction, and 10 mgm. of muscle relaxant were given. Only gas and oxygen were used to maintain the anesthesia. His mouth was dry throughout the operation. After operation he had no pain and did not require any analgesic. He was not confined to bed the same evening of the operation.

CASE 5. A 57-year old Chinese business man was given only one hypnotic session for elective cholecystectomy. He had only 100 mgm. thiopentone for induction, 8 mgm. of muscle relaxant, and gas and oxygen for maintenance of anesthesia. A few hours after the operation he complained of a pain in his back and gr. 1/6 omnopon was given. The same evening he was ambulant, and no further analgesics were required. His backache continued to trouble him during the post-operative period and the surgeon had to give him local infiltration into his spinal muscles.

CASE 6. A 45-year old Chinese clerk underwent cholecystectomy with only one hypnotic conditioning. He had 150 mgm. thiopentone for induction and 10 mgm. of muscle relaxant, and gas and oxygen for maintenance of anesthesia. His mouth was dry throughout the operation. He was found to have a perforated gall bladder with mucoid fluid loculated in Morrison's Pouch, and there were multiple faceted stones. After the operation he was given blood transfusion, and intravenous glucose and saline for several days. No analgesics were required during the whole of the convalescent period.

CASE 7. A 55-year old clerk had only one hypnotic conditioning the evening before operation and a 10-minute session the following morning. He underwent a partial gastrectomy for a large growth of the pyloric end of the stomach spreading to the head of the pancreas. The stomach was dilated and there was ascites. Only 100 mgm. thiopentone and 10 mgm. of muscle relaxant were used and gas and oxygen for maintenance of anesthesia. After operation he had only a single injection of gr. 1/3 omnopon. When all the drips and nasal tube were removed, he was very cheerful, comfortable and ambulant. He went home on the 7th post-operative day.

CASE 8. A 37-year old Chinese housewife had an excision of a dilated thyroid adenoma. She had only one hypnotic conditioning. That night before the operation she slept very well. 125 mgm. thiopentone and 10 mgm. of muscle relaxant were used, and gas and oxygen for maintenance of anesthesia. Her mouth was very dry throughout the operation. For two successive nights after the operation she was unable to sleep. She had no pain at the site of the operation, but she had a severe ache at the back of her neck — probably due to prolonged hyperextension of her neck during operation. On the first night after the operation, the sister on duty who found her awake late at night, thinking that she could not sleep because of pain gave her gr. 1/3 omnopon, which did not help her very much in her sleep. The second night barbiturates did not help her. She was asked whether she had any dream or heard anything during the operation. She could vaguely recall a dream during the operation that she had cancer of her thyroid and that she was very ill. However, she said even though it was cancer, she was not afraid because to die was fated. But she could not understand why she could not sleep. The patient was re-hypnotised, reassured that it was not cancer and was told that what she dreamt or heard was not true. It was later learnt that the operating team who found the nodular fibrotic appearance of her thyroid did discuss about the possibility of carcinoma during the operation.

CASE 9. A 51-year old Chinese business man underwent a left ureterolithotomy. He was given only one hypnotic conditioning the evening before surgery. 200 mgm. thiopentone and 10 mgm. of muscle relaxant were used and gas and oxygen for the maintenance of anesthesia. When he came round in the ward and was presented with the stone, he was very disappointed to find the stone so small that he thought it could have been passed out by taking some Chinese herbs which he used to give to his friends for ureteric stones because he was a "Koon-tow" man. That evening after the operation he had to be given gr. 1/3 omnopon. Only after the next morning when the surgeon told him that his stone had been impacted in the ureter for more than a year was he satisfied. He required no further analgesic after that and was able to move about.

CASE 10. A 41-year old Government Executive Officer had severe phimosis, and was advised circumcision. He was given five hypnotic conditionings because we wanted to do the circumcision under hypnoanesthesia alone as an out-patient. He experienced no discomfort throughout the entire operation which was not an easy one, and it took 20 minutes because of many adhesions. After the operation he was able to walk home.

CASE 11. A 67-year old Chinese underwent Millin's Prostatectomy and Cystolithotomy. He had two hypnotic conditionings before operation. 200 mgm. thiopentone and 12 mgm. of muscle relaxant were used, and gas and oxygen for maintenance of anesthesia. After the operation he required only gr. 1/6 omnopon. He was able to get out of bed on the second postoperative day with the catheter still in.

CASE 12. A 12-year old boy had a severe pain in the R.I.F. the whole afternoon after coming home from a swim. He was brought to hospital and operated on for appendicitis at 8 p.m. He had only a short session of hypnotic conditioning. The hypnotist stayed with him during the whole operation. He was hypnotised on the table and only gas and oxygen were used for anesthesia, and suxamethonium for muscle relaxation. When he came round after the operation and returned to the ward, he was quite comfortable though later in the night he had to be given 50 mgm. pethidine injection before he could sleep. The

next morning he was able to get out of bed. His postoperative recovery was excellent.

CASE 13. A 24-year old seamstress underwent an appendicetomy. She had only one hypnotic conditioning before operation. 150 mgm. thiopentone were used for induction, and gas and oxygen for anesthesia, atropine and suxamethonium were also used. That night after operation she had to be given 100 mgm. of pethidine injection before she could sleep. Next morning she was able to walk to the lavatory.

CASE 14. A 22-year old Chinese salesman underwent excision of a thrombosed external pile. He had only one hypnotic conditioning. He was given 250 mgm. thiopentone for induction, gas and oxygen for anesthesia, and suxamethonium as relaxant. After the operation he felt no pain. After 48 hours he pulled out the anal pack himself and was able to defecate after that. No analgesic was given during the convalescent period.

RESULTS:

Operation.	Age.	Sex.	Night's Sedation.	Premedicat.	Induction	Maint.	Pain-relieving drugs Pethidine or Omnopon Injections.
Hypnosis Used							
Cholecystectomy	58	F	Nil	Nil	Thiop. 75	G/O	1x 50 mgm.
Cholecystectomy	49	F	Nil	Nil	Nil	G/O	1x 25 mgm.
Partial Thyroidectomy	28	F	Nil	Nil	Nil	Nil	Nil
Excision-Thyroid Adenoma	28	M	Nil	Nil	Thiop. 100	G/O	Nil
Cholecystectomy	57	M	Nil	Nil	Thiop. 150	G/O	Nil
Cholecystectomy Perforated G-B	45	M	Nil	Nil	Thiop. 150	G/O	Nil
Partial Gastrectomy	55	M	Nil	Nil	Thiop. 100	G/O	1x Gr. 1/3.
Bilateral Excision of Thyroid Adenema	37	F	Nil	Nil	Thiop. 125	G/O	Nil
Left Ureterolithotomy	51	M	Nil	Nil	Thiop. 200	G/O	1x Gr. 1/3.
Circumcision	41	M	Nil	Nil	Nil	Nil	Nil
Millin's Prostatectomy & Cystolithotomy	57	M	Nil	Nil	Thiop. 150	G/O	1x Gr. 1/6.
Appendicetomy	12	M	Nil	Nil	Nil	G/O	1x 50 mgm.
Appendicetomy	24	F	Nil	Nil	Thiop. 150	G/O	1x 100 mgm.
Excision of Thrombosed External Pile	22	M	Nil	Nil	Thiop. 250	G/O	Nil
Hypnosis Not Used							
Cholecystectomy Perforated G-B	24	F	Emergency	Atrop. 1/100	Thiop. 250	G/O	6x 100 mgm.
Cholecystectomy	53	F	teep 2	Atrop. 1/100 +Vallergan 25	Thiop. 200	G/O	3x 100 mgm.
Cholecystectomy	57	F	teep 2	+Vallergan 25	Thiop. 175	G/O	5x 100 mgm.
Partial Thyroidectomy	54	F	teep 2	+Vallergan 25	Thiop. 250	G/O	3x Gr. 1/6.
Partial Thyroidectomy	39	F	teep 2	+Vallergan 25	Thiop. 200	G/O	2x 100 mgm.
Excision-Thyroid Adenoma	36	F	teep 2	+Vallergan 25	Thiop. 250	G/O	2x 100 mgm.
Partial Gastrectomy & Cholecystolithotomy	62	M	Emergency	Atrop. 1/100	Thiop. 100	G/O	5x Gr. 1/3.
Laparotomy-Gastrostomy	62	F	Nil	Atrop. 1/100	Thiop. 75	G/O	8x Gr. 1/6.
Partial Gastrectomy	41	M	teep 2	Atrop. 1/100 +Vallergan 25	Thiop. 200	G/O	3x Gr. 1/3.
Right Ureterolithotomy	58	F	teep 2	+Vallergan 25	Thiop. 200	G/O	3x Gr. 1/3.
Appendicetomy	37	M	Emergency	Atrop. 1/100	Thiop. 250	G/O	3x 100 mgm.
Appendicetomy	28	M	Emergency	Atrop. 1/100	Thiop. 250	G/O	4x 100 mgm.
Millin's Prostatectomy	60	M	teep 3	Atrop. 1/100 +Vallergan 25	Thiop. 250	G/O	7x Gr. 1/3.

The above is a summary of the results. The results are compared with a group of untreated controls selected at random and undergoing almost the same operations by the same group of surgeons. A clinical evaluation of the value of hypnosis in surgery is not easy. It is difficult to evaluate the benefits derived by each patient because of the sub-

jective nature of pain. Subjectively hypnosis seems to create hope and confidence in the surgical patients, irrational fears are neutralised and postoperative well-being and relative comfort ensured. An objective evaluation of hypnosis in surgery is difficult and can only be presented on an empirical basis. In our hypnotic series none of the patients received any night's sedation and premedication, and they were none the worse, and in fact their induction, anesthesia and postoperative convalescence were better than the non-hypnotic group. The amount of thiopentone used for induction is considerably reduced, and in two of the cases thiopentone was not used at all — only hypnosis was used for induction. The most remarkable result derived from the use of hypnosis is the marked reduction in the need of narcotics during the postoperative period. Several of our patients in the hypnotic group did not require any pain-relieving drugs at all. The rest needed only one single dose, and they were quite comfortable postoperatively. The advantage of this is obvious since it is well-known that narcotic agents reduce the physiologic efficiency of organs such as the kidneys, lungs, etc., and have other adverse effects on normal peristalsis causing abdominal distension, bladder function causing urinary retention, respiration, late ambulation and slow recovery. There were no vomiting or other complications in the hypnotic series, and all the patients felt they were greatly benefited by using hypnosis. No pretense is made as to the statistical significance of this small number of cases. They are presented merely in the hope that they may stimulate further and more extensive study.

Discussion:

Strong evidence exists that suggestion plays an important role in the recovery of surgical patients after uncomplicated procedures (2, 3, 4, 16, 25 & 28). Beecher (1) feels that the enthusiasm or skepticism of a surgeon may influence the therapeutic result of an operation. Wolff and his associates (3, 28) have shown that neural activity, even at a high cortical level, can alter the reactions of the peripheral tissues to noxious stimuli with threatening suggestion augmenting damage, in response to suggestion in hypnosis. Even as far back as 1877 Delboeuf in France (16) wondered why people in stage demonstrations, who had tissue injury, seemed to heal so rapidly. He got volunteers, hypnotised them, anesthetised one arm and left the other arm sensitive. He found that when he burned them as nearly equally as he could, the anesthetised arm did not develop a blister. It healed much more rapidly than the other. He crossed this over, repeated the tests, and anesthetised the other arm just to check his results. He found the same results. In 1959 Harold Wolff and his co-workers, Helen Goodell and Loring Chapman, at Cornell University, repeated Delboeuf's experiment, apparently without knowing about his work. They found there was a marked difference between the tissue reactions, edema, redness, and swelling of injured tissues when one arm was anesthetised with hypnosis and the other arm left sensitive. They gave the suggestion to these hypnotised subjects that the unanesthetised arm was going to have something dreadful happen to it. They increased the anticipation of something happening to the tissues, and they found that the responses were greater, with more swelling, more blister formation (2).

Hypnosis is of use in surgery in the following ways:—

1. Hypnosis in Pre-operative Sedation
2. Hypnosis as an Induction to General Anesthesia
3. Hypnosis as an Anesthetic
4. Hypnosis in Post-operative Therapy.

Hypnosis in Pre-operative Sedation:

Hypnosis is a valuable weapon in preoperative sedation. The prospective surgical patient is usually frightened, he anxiously anticipates pain, possible morbidity, and even mortality. In its evolution surgical science has neglected the personality as a factor of surgical success. Actually recovery from surgery depends on the patient's ability to restore his own homeostasis and heal his own wounds. Psychic factors have been long recognised important factors in medical and surgical healing. The emotional response of the patient to anxious fear or confident hope can profoundly influence the nature and duration of his post-operative convalescence. Fear inhibits and hope speeds recovery. Under

hypnosis confident hope can be created, irrational fear neutralised, and thus post-operative comfort and early recovery ensured. The conditioned surgical patient goes to surgery calm and relaxed. He sleeps well the night before surgery. Often he does not require any premedication, and reaches the stage of surgical anesthesia with the minimal amount of anesthetic drugs.

Hypnosis as an Induction to General Anesthesia:

As an induction to general anesthesia hypnosis compares favourably in efficiency to thiopentone, but it is free from the dangers of that quick acting narcotic, with its depressive effects on the respiratory centre, its tendency to cause laryngeal spasm, and other vagotonic effects, and the easy liability to over-dosage in the very ill or "poor risk."

Hypnosis as an Anesthetic:

Chemoanesthesia, so easy to administer and so effective, is the method of choice over pure hypnoanesthesia for surgery. However, hypnoanesthesia, unlike chemoanesthesia, is in every respect harmless to the patient. It has all the prerequisites of the ideal anesthetic (17). J. B. DeLee, the father of obstetrics, once stated that "the only anesthetic that is without danger is hypnotism" (6). Despite its effectiveness in major surgery, hypnosis will never be a substitute for chemoanesthesia since it can be utilised in less than 10% of the cases and these must be very carefully selected. Hypnosis, in combination with anesthesia can be employed routinely for the poor surgical risk as well as for the debilitated and geriatric patient undergoing major surgery. We do not advocate hypnoanesthesia in cases where the patient is able to take chemoanesthesia (14).

Hypnosis in Post-operative Therapy:

Post-operatively hypnosis is of inestimable value when it is used in suitable patients. The surgical patient conditioned before surgery enjoys comparative post-operative comfort and early recovery. Further hypnotic sessions during the post-operative period may be required to reinforce the suggestions. Deberneck (7) utilised hypnosis as a pre- and post-operative adjunct in the treatment of surgical cases, including the post-gastrectomy or "dumping" syndrome, post-operative pain and various bizarre forms of pains. Wangensteen and his Associates (8) used hypnosis to prevent post-operative urinary retention.

Conclusion:

Hypnosis when judiciously used is of inestimable value in surgery. A number of cases is presented to show the value of hypnosis in surgery.

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