not a few alarming cases of syncope, delirium and paralysis, or tetanic fixation of the respiratory muscles, have been observed.

Eucaine has the advantage over cocaine in that it is more readily absorbed, covers a larger area, is not nearly so toxic, lasts longer, keeps better, and does not dilate the pupil so much as cocaine.

Gant and Schleich use the water infiltration method, employing sterile water by hypodermic. It produces an artificial ischemia and anesthesia due to pressure and tension in the tissues.

In trigeminal and supra-orbital neuralgia, primary medication with morphine gr. 1-4, and hyoscine gr. 1-150 prepares the patient for the insertion of the needle and stylet into the neighborhood of the nerve trunk. A solution of 3½ per cent eucaine is used to deaden the area after removing the stylet. In about half a minute a few drops to 20 drops of 90 per cent alcohol are injected, producing a complete and continued anesthesia.

Magnesium sulphate in a 25 per cent solution has met with favor in nerve blocking, its action being probably due to the increased amount of magnesium that is normally present, temporarily inhibiting or abolishing the power in the nerve of conducting motor and sensory influences.

Guaiacol, menthol and phenol are anesthetics of no mean value, and are extensively used either alone or usually in combination.

Urea and quinin hydrochlorid is a splendid local anesthetic, being often used locally in the field of operation where a general anesthetic is also used.

The two factors over which we have the greatest control in shock during operation are the trauma of the operative procedure and the toxicity of the general anesthetic. Theoretically, local anesthesia during operation will block most or all sensory impressions. In this way the brain can be temporarily disconnected from the wound. Nitrous oxide-oxygen obliterates psychic shock and produces no toxic shock. The local anesthetic obliterates the traumatic shock.

During operations on the rectum and anus the anesthetic should always be removed temporarily while the sphincter ani is being divided. Where for any reason the anesthetic has to be withdrawn it should not be replaced with full strength, but gradually.

Death during an anesthesia, where the anesthetic is a contributing factor, is, in order named, from shock, pneumonia, nephritis, endocarditis and myocarditis or suffocation from inspired mucus. When death is due to the anesthetic alone: overdose of the anesthetic, improper administration, a susceptibility of the patient to the anesthetic em-

ployed. Often death is due to carelessness in not watching the pulse and respiration and having the attention on the operation and not on the patient. Rarely death may be due to overstimulation with whiskey in an effort to resuscitate.

Owing to the fact that only a small number of deaths from anesthesia are reported, the impossibility of determining accurately the total number of administrations, and there being no standard to determine what constitutes a death, we are aware of the cause of error in estimating the dangers of any anesthetic. This deplorable fact impresses us with the importance of keeping accurate records of surgical cases, the kind and amount of anesthetic used, time started and time ended, pulse and respiration before, during and after, stimulants used, complications and other data that would prove valuable in the future.

N. E. Troy and Foster Sts.

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EPITHELIOMA OF CHEEK—EXCISION WITH GLANDS OF NECK—PLASTIC FOR CURE OF DEFECTS—RECOVERY.

By George T. Tyler, A.M., M.D.,
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Patient C. M. R., male, age 52. Family history unimportant. Personal history unimportant, except for pneumonia and empyema on right side two years ago. He expectorates copiously each morning.

P. I.—For several years the patient has noted a small nodule on the mucous surface of the left cheek near molar teeth. He paid no attention to it, until four months ago, when it began to increase in size and ulcerated. Treated with caustics and X-ray, it became larger and grew painful. In spite of advice, he waited until the present time, when he sought relief only be-

cause of pain and inconvenience in eating. He has not lost weight.

P. E.—Patient of small stature; mucous membranes of good color. He has psoriasis on face, hands, arms and legs. Seborrhoeal keratitis on mucous surface of the upper lip, just to the right

line up in mid axillary region, and curving down to mammary line. Hippocratic fingers. Pyorrhoea alveolaris. Left cheek is red, much swollen and indurated. Ulceration on inside extending from the angle of the mouth back to the last molar teeth. Palpable glands in the upper part of the

Specimen—Epithelioma of Left Cheek.
(Centimeter Scale.)

Inside.

Outside.

Fig. 1.

of the middle line. Heart sounds normal. Lungs clear, except for impaired percussion note on right side extending in a curved line from the scapular Side View. Scars on Cheek, Face and Neck.

Fig. 2.

neck, extending behind the sterno-mastoid muscle, as well as forward in the region of the submaxillary gland.

As operation was the only chance the patient had, he accepted it, though he was told that it would be mutilating.

Operation March 10th, 1913. Under ether anesthesia incision was made along the anterior border of the left sterno-mastoid muscle. Ligation and division of the external carotid artery; dissection of glands and fascia en masse of the anterior triangle of the neck, including the sub-maxillary salivary gland; dissection of glands behind the sterno-mastoid muscle in the posterior triangle of the neck.

Excision of Cheek—Skin beyond the indurated area was incised and dissected in order to save as much skin as possible. The whole cheek was then removed from the angle of the mouth to the angle of the jaw, including part of the masseter muscle. The mucosa was not spared; every effort being made to give the growth as wide a circuit as possible. The skin incision extended almost to the ear. After the removal of the growth the edges of the wound were seared with the actual cautery. The mucous membrane of the wound included the entire buccal mucosa from the reflection of the alveolar border of the lower to that of the upper jaw.

The problem of closing this defect in the cheek was now to be met. As the condition of the patient did not warrant an extensive plastic operation, I drew the skin edges together, relieving tension by deep parallel incisions above and below. Fortunately, I could bring the lip edges together with fair accuracy. This end of suture line included skin and mucosa for 2 c. m. of its length. For the remainder of the wound, I hoped that the mucous membrane would grow in from the edges, making a lining for the cheek, though there seemed small chance that the skin sutures could hold. Wound in neck closed with drainage.

The patient reacted well from the operation. Drainage from the neck incision was removed on

suasion, consented to removal of the gland noted on May 9th. Under local anesthesia it was removed. Microscopic examination showed invasion. Several nests of epithelial cells were found. The wound in the cheek is smaller.

June 7th, 1913. The patient has discovered in the right submental region a palpable gland.

June 23d, 1913. The patient has three teeth near the edge of the wound, one lower and 2 upper, all molars, which it is difficult to clean. Pyorrhoea increasing. Under local anesthesia the gland noted June 7th was removed and the wound was closed with interrupted sutures. Under N. O. anesthesia the teeth were removed; the lower through the defect in the cheek. (I regret that

Fig. 3.
Pursing Lips. Note Scar on Cheek.

the following day. The whole cheek-wound seemed healthy, but with the exception of 1 c. m. at each extremity the skin edges separated, leaving an opening in the cheek 5x2.5 c. m. The patient was seen at frequent intervals. The wound was kept clean; the mucosa gradually extended, making a new lining for the cheek. Gradually the skin edges closed in to about one-half the original size of the wound. The patient occludes this with a cotton pledget when eating. He can separate his teeth 1.5 c. m.

May 9th, 1913. Small palpable gland felt in the left sub-maxillary region. Wound in cheek is becoming smaller.

May 30th, 1913. The patient, after much per-

Fig. 4.
Note Ability to Open Mouth. Note Scar on Cheek.

these teeth were not extracted at the first operation.)

Subsequent History—Patient was seen the latter part of August. His condition was excellent. There is a small palpable gland, freely movable beneath the left ramus of the jaw; removal advised.

September 28, 1913—Wound in cheek still entirely healed. Patient feels for hairs in his mouth from the edges of the reflected skin. The gland noted has increased in size, and is firmer. He will not have it removed.

November 2, 1913—Patient looks bad. There is much induration beneath left ramus of jaw. It is adherent to the deeper structures; but only

slightly elevated. Hairs removed from inside of mouth at scar.

The opening in the cheek at this date was 1x.5 c. m. Except for this defect, the mucosa had covered the entire inner surface of the cheek. The skin and mucous surfaces were separated. The mucous surfaces were reflected and brought together, edge to edge, care being taken to place the cat-gut sutures in the sub-mucosa. By burrowing under the skin I could approximate the edges using silk sutures, thus making two layers of sutures.

The microscopic examination of the gland removed showed malignancy with areas of degeneration.

July 9th, 1913. The wound in the cheek broke down three days after operation. It assumed a cup-shaped appearance, but the granulations were healthy. These were scraped and trimmed. By exerting pressure with a cotton pledget moistened with two per cent phenol, the mucous edges were prevented from growing to those of the skin. This simple device ultimately brought about the closure of the wound from the mucous surface. The defect at present is smaller than before the attempt to close it. There is an area of induration at the site of the removal of the submental gland. It is not adherent to the deeper structures. Its removal is advised. General condition of the patient is good.

August 9th, 1913. The wound in the cheek is entirely closed. Seen from the inside of the mouth, the mucosa looks normal. The area of induration at the site of removal of the sub-mental gland has entirely disappeared. No palpable glands anywhere in the neck. The patient is to report one month from today.

The patient has aided much in the progress of the case by keeping the wound clean.

This case is interesting because of the closure of the defect in the cheek without extensive plastic operation. In looking through the text books and other works on plastic operations about the face, one finds numerous suggestions for restoring the mucous surface of the cheek. These have chiefly to do with inversion of skin from face, forehead, neck, or arms, the skin gradually becoming transformed to mucous membrane. Portions of the tongue have been reflected to cover these defects, but so far as I have seen, no case has been reported where so large a defect has been healed by the growth of mucosa from the edges of the wound. I report the case for this reason, for I know too well the likelihood of metastasis of the malignant process.

THE CYSTOSCOPE IN SURGICAL DIAGNOSIS.*

By James Knox Simpson, M.D.,
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It is not with the hope of presenting anything new in cystoscopic work that the author has chosen this subject, but with the hope of stimulating a desire for more complete and accurate diagnoses of lesions involving the urinary tract, by the recalling to your minds of a method which is so unfailingly accurate in its data that its value as a diagnostic asset cannot be over estimated.

In the whole field of surgical diagnosis there is probably no branch in which there has been made more substantial progress during the last two decades than in the diagnosis of lesions of the urinary tract. Efforts have been made to examine visually the interior of the bladder since the early part of the nineteenth century, but without success until Nitze's pioneer work about 1877, which resulted in his introduction of the first electrically lighted cystoscope in 1879. Since this epoch making event the literature on this subject has become voluminous, the mechanical and technical difficulties have been eliminated, and in the modern cystoscopy which has resulted, surgery has added to its diagnostic armamentarium a method which has had a large share in reducing the mortality of operative procedures on the kidneys from almost prohibitive figures to less than 3 per cent.

Pre-eminently associated with this progress are the names of Alberran, Casper and Brenner, and in this country Tilden Brown, Elsner, Bransford Lewis, Braasch and Kelly. Each of the three prevailing methods of examination has its advocates; Kelly favors the direct vision—air distention and reflected light method. Bransford Lewis, Pilcher and others the lens system, and Braasch the direct vision water distention method. Personally, I prefer the latter. However, there are many points in favor of each.

There are two classes of cases coming under the observation of the surgeon in which the cystoscope is of invaluable aid in determining the seat of the trouble.

Class I—Those cases in which the majority of the symptoms both subjective and objective are abdominal.

Class II—Those cases which by their symptoms

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