tint. She seemed of weak intellect, though not formerly so; had a fatuous expression, and would not speak above a whisper. She complained of pain in abdomen, principally in the right iliac fossa, and attributed her symptoms to a miscarriage which occurred in May last. Her health before her marriage, three years since, was good. She had had two children, both of whom died in infancy, and two miscarriages. At the last in May, 1892, she lost a good deal of blood, and since that time had been suffering from pains, and had had no return of menstruation. There were no abnormal signs in the lungs, heart, or abdominal viscera, and no signs of syphilis. There was pain on pressure over the hypogastrium. The bladder was distended. On vaginal examination nothing abnormal was found. The rectum was loaded with feces. The urine (specific gravity 1015) was of a dark reddish colour, but contained no blood, albumen, bile, or sugar. The limbs were weak, but she could move them all; the deep reflexes absent; sensation was unimpaired. The bowels were relieved by enema, and the urine was then passed naturally. After remaining in about the same condition for a week, she had an epileptiform convulsion on the night of August 8th. The tongue was bitten; the bladder found again distended. On the morning of August 9th there was complete loss of power in the arms and legs, and feces were passed involuntarily. The condition was thought to be due either to tuberculous meningitis or a cerebral tumour. On August 10th she had several more convulsive attacks, was continually crying out, and rolling her head from side to side. The paralysis had extended to the diaphragm; this caused suspicion that her condition might be due to peripheral neuritis, and inquiry was made from the friends as to the possibility of diphtheritic poisoning, but no history of sore throat could be elicited. The faradic current was applied to the diaphragm, but she died at 8.45 A.M. on August 11th.

Necropsy.—The brain was carefully examined, and nothing abnormal could be found. All the organs of the body were found healthy, with the exception of the intestines, which were contracted and contained a yellowish sticky fluid in considerable quantity. The uterus was of normal size, the lining membrane healthy. There was no corpus luteum in either ovary. There was a well-marked blue line round the gums, which had been inconspicuous before death.

Death was considered to have been due to lead poisoning, and an inquest was held. An aunt of the deceased gave evidence that some weeks before her death the deceased had pointed out a chemist's shop and said "That's where I get the stuff I take," and in answer to a further question as to what stuff she meant, replied, "Diachylon." Witness said, "I thought that was poison," and deceased answered, "Well, it does not poison me. I get two pennyworth and make it into pills, so I can swallow them." She also gave witness to understand that she took it with a view of producing abortion. Under the direction of the coroner the verdict of *felu-de-se*, by taking a drug for a felonious purpose, was returned.

It is not my intention to enlarge on these cases from a symptomatic point of view. The symptoms in the first case were fairly characteristic of lead poisoning, and in the latter, though less so, they yet present no very novel features. The striking point about the two cases is the occurrence of two deaths in a period of less than two years from the self-administration of a drug not usually employed as an internal remedy. I consider that it is probable that these two unfortunate women are by no means the only ones who have availed themselves of this supposed ecboic, the presumption being that the occurrence of two such cases in one town points to a somewhat widespread superstition as to the powers of the drug, and from a public point of view chemists ought to be exceedingly careful in supplying this substance in future. It seems as reasonable indeed that all poisonous articles for whatever use intended should be labelled "poison," as that another class of commodities should be marked "made in Germany," and the sooner a regulation to that effect can be enforced the better for the public.

A more academic, but no less interesting, question raised by these cases is the following, How did diachylon come to have the reputation which led to its internal employment? For some time this appeared quite unanswerable. I am now, however, able to offer a suggestion on the point. The explanation does not seem to be entirely adequate, but it suggests a possible origin for the custom.

Diachylon is a plaster as old as Galen's time, and older, but it had not then its present simple constitution. It contained, in addition to litharge, marshmallow, linseed, and fenugreek, and may have had this composition till comparatively late times. Hippocrates recommends lint-seeds among other things as an emmenagogue, and Pliny and many others say that fenugreek is an ecboic. Old superstitions die hard. Is it possible that we are dealing with one dating from the time when diachylon contained these drugs, and that it then had a reputation as an ecboic which has been transferred to its successor in the *Pharmacopœia*? There is another plaster mentioned by Paulus Ægineta similar to diachylon, contain-

ing marshmallow, linseed, fenugreek, and in addition rosin, tears of ivy, and turpentine, but no litharge. Is it possible this was also known as diachylon, and, being comparatively harmless, was used as an emmenagogue?

I only desire that the publication of these sad cases shall lead to the recognition and exposure of this dangerous practice, and aid in preventing its continuance. I cannot believe that the unhappy victims had any idea of the extremely poisonous nature of the substance with which they were dealing; but I also fear that in this town, in common with other manufacturing places, the bringing on of premature labour is looked upon as a tolerably safe and easy procedure—a view too often followed by disastrous results.

THE CAUSATION OF ANÆMIA AND THE BLOOD CHANGES PRODUCED BY URIC ACID.

By ALEXANDER HAIG, M.D. OXON., F.R.C.P. LOND.,
Physician to the Metropolitan Hospital.

THOSE who have read what I have written on this subject may remember that my clinical experience and researches have on several occasions suggested forcibly to my mind that an excess of uric acid in the blood was directly or indirectly the cause of such blood changes as might account on the one hand for paroxysmal hæmoglobinuria, and on the other for various forms of anæmia.¹

I have also said, with regard to the researches of Dr. Hunter, Dr. Wright, Horbaczewski, and others, that the excess of uric acid found by them in the blood and urine was not the result of the blood changes—but their cause.²

I now desire to point out that it can be demonstrated that uric acid does produce just such changes in the blood as I have all along been inclined to attribute to it.

Following out the very close clinical resemblance between a uric acid storm as seen in the uric acid headache (migraine) and the symptoms which precede and accompany a paroxysm of hæmoglobinuria, it occurred to me that I ought to be able, by producing a uric acid storm, to produce at least some blood changes; and I proceeded to test the point.

Then some nine months ago I discovered that uric acid taken by the mouth passes almost directly into the blood, and in due time proportionately increases the excretion of the substance in the urine, and is not, as was previously supposed, converted into urea. I cannot go into this matter here, but my facts with regard to it will be published shortly in the *Journal of Physiology*.

This placed me in a position to increase the uric acid in the blood and urine by the simple process of taking it by the mouth, and I began to apply this power to the investigation of anæmia.

I took the fraction $\frac{\text{Hæmoglobin}}{\text{Red Cells}}$ or rather the decimal representing this fraction, and with this I constructed curves which could easily be compared with the curves of urate excretion.

In my own case I found not only that by taking pure uric acid (gr. 2 to 4 ter) I could diminish the value of the blood fraction, and that it rose again when I left off the uric acid; but I also found that my blood responded in exactly the same way to the natural fluctuations in urate excretion, and the amount passing through the blood from day to day.

In chlorotic patients I first of all ran up the blood fraction by giving iron, and then after an interval gave them beef tea in which I estimated the uric acid.³ This produced a fall of the blood fraction, which again was followed by a rise when it was left off; and I have now repeated these observations in several cases with results that are practically identical with my results in myself, and apparently proportional to the amount of uric acid taken.

I hope to read a paper and show some of the curves I have obtained at the Newcastle Meeting of the Association; and I believe that my facts will go far to prove that uric acid may cause both paroxysmal hæmoglobinuria and anæmia, and will furnish at the same time a very simple explanation of many points in the causation of these diseases.

¹ BRITISH MEDICAL JOURNAL, vol. i, 1890, p. 67, and *Uric Acid*, p. 215.

² *Lancet*, vol. i, 1892, p. 663, and *Transactions of the Medical Society*,

vol. xv, p. 156.

³ *Uric Acid*, p. 51.