REFRESHER COURSE FOR GENERAL PRACTITIONERS**SUICIDE, ACCIDENT, OR MURDER ?**

BY

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When a doctor is called to see an apparently dead body he is being asked to make several decisions, each of which will set in motion (or may restrain) a series of important consequences. He would be wise to remind himself of the mischief—if not grave injustice and danger to liberty—that may follow from carelessness or ignorance in coming to any decision he makes on a “dead body.”

Dead or Alive ?

The doctor has first to assure himself that death has, in fact, taken place, and though no doubt about this may arise in most cases—indeed the body may be mummified or dismembered—it is essential that he should actually examine the body to assure himself of the fact ; it is not enough to assume death. Not long ago a woman whose cold stiff body had been found exposed on a common was certified dead, as she lay under blankets in an ambulance, by a doctor who contented himself with putting a hand on the skin. She was taken to the mortuary, stripped, and placed on the table for necropsy, where she was shortly after seen to be swallowing and undoubtedly also breathing : she survived some seven or eight hours in hospital. Extreme cold, grave loss of blood and shock, vagal inhibition as from immersion in cold water, and electrocution may all simulate death so closely that great care is necessary to avoid this shocking error.

Stethoscopic examination for the heart sounds is the only really reliable test : if there is no heart beat for four or five minutes eventual survival is impossible. Groping with throbbing fingers for a thready pulse can be deceptive, and testing for the breath with a feather or a cold mirror are pantomimic gestures that can only waste vital time. If the doctor is in doubt, or there is difficulty because of noise of traffic or other inconvenience, he should certainly institute resuscitative measures and then have the body removed to a place where it can be examined under better conditions. Resuscitation should not be relaxed until no possible hope of survival exists : striking recoveries have ensued after long periods of apparently suspended animation in cases of electrocution.

How Long Dead ?

As a corollary to this first decision the doctor may be asked how long ago death took place. No more difficult medico-legal task has ever existed, and no doctor can do more than give an approximate time. The temperature of the body is a useful guide in the first 24 hours, and this simple test of cooling should not be forgotten, even if the body feels cold, as it may be some 10 to 12 hours before it is actually as cold as its surroundings. For this purpose skin temperatures are unsuitable, and the thermometer should be inserted into either the rectum or a hole made in the abdomen. Some 2° F. (1.1° C.) an hour is the normal rate of loss for a body in the open air in average English weather, but less than 1° F. (0.55° C.) an hour may be lost in bed or when heavily

clothed, and as much as 3 to 4° F. (1.7 to 2.2° C.) an hour in cold water : the circumstances will plainly affect the rate of heat loss.

Rigor mortis is an uncertain guide but should, of course, be assessed, as it carries the time limit set by cooling from about 24 hours to about 36. The working rule that rigor, starting in the face at six hours, is complete to the feet and hands at 12 hours, stays for 12 hours, and takes a third 12 hours to pass away is a fair general guide. Rigor is, however, too uncertain to be safe. After 36 hours the basis of estimation—the development of decomposition and its spread into the body from the flanks of the abdomen—goes on slowly and with many vagaries, depending on the initial bacteriology of the bowel, and is largely controlled by climatic conditions. Cold water doubles the rate of cooling and delays rigor and decomposition to the same degree.

Certification or Coroner ?

If a doctor has been in attendance during the last illness—preferably within 14 days—and knows the cause of death he has a statutory duty to issue a certificate of death for the registrar.

If he has not attended during the last illness, or if he has any doubts about the cause of death or knows (or suspects) it to be unnatural or associated with injury or violence of any kind (or date), he will only obstruct the public interests by issuing some kind of certificate which will take vital time to pass through the hands of the registrar before being referred to the coroner for inquiry. Where suspicion of crime arises, however faint the scent of foul play, the doctor should, of course, lose no time in informing the police (who may be left to inform the coroner) so that their C.I.D. inquiries may start without delay. A doctor is not compelled by any regulation to report cases to the coroner—the registrar is the official sorter—but only harm can come of deliberately trying to avoid inquiry : obstructing the coroner in the discharge of his duties is, in fact, punishable by imprisonment or fine (or both).

The classes of cases to be referred to the coroner consist, from the practitioner's point of view, of :

1. *Deaths the causes of which are unknown or uncertain—* all cases seen only after death.
2. *Violent or unnatural deaths*, or deaths which might, from the doctor's knowledge, be related to : (a) accident or injury of any date ; (b) want, exposure, or neglect ; (c) poisoning—by drugs or poisons of any kind ; (d) abortions if in any way suspicious, and suspicious infant deaths ; and (e) industrial hazards, including anthrax.
3. *Deaths before full recovery from anaesthesia* or suspected to be connected with operative or other treatment.

Crime or Accident ?

The last duty of a doctor confronted with a dead body is to decide, using his training in medico-legal matters,

whether there is any cause for suspicion of suicide or foul play, or whether circumstances and any injuries that may be seen are capable of some simple natural explanation.

It is, of course, no part of a doctor's duty to be a detective, and he must on no account interfere with the setting of a scene which the police may later have reason to examine with meticulous care, to photograph, and to search for fingerprints. He should therefore tread warily and avoid touching anything smooth that might carry prints. A doctor can ascertain the fact of death, insert a thermometer (registering to zero) either into

FIG. 1.—Marks on neck, indicating foul play, not seen by doctor called to examine dead girl.

the rectum or into a hole made in the abdomen, and observe superficial injuries, loss of blood, smell or stains of poison, signs of asphyxia, and so on without disturbing the body. He should not let the body be moved if there is any reason for uncertainty, far less real suspicion; he must, however, not fail to make a reasonably painstaking examination before deciding this point.

A doctor, called to a house to see the dead body of a girl in bed, looked into the room and saw she lay there covered by the bed-linen up to the mid-neck. He did nothing more,

FIG. 2.—Tentative incised wounds of the throat of suicidal character, inflicted with safety-razor blade.

but later informed the coroner of a "sudden death" unattended by him in life. On the coroner's officer making his routine visit for inquiry and turning down the sheets it was evident that the girl had been strangled (Fig. 1). Her mother was found, upon search of the house, under the stairs, also strangled. Valuable time had been lost in a murder hunt.

The recognition of grounds for suspicion, apart from the plainest pedestrian circumstances of murder, rests largely with the doctor's ability to recognize suicide when he sees it. The classical suicidal cut throat, with its tentative incisions (Fig. 2), elective site, curve, and slope; the solitary or doubled stab over the heart, without "protective" wounds to the hands; the contact discharge of a firearm in one of the elective suicidal sites—centre brow (Fig. 3), temple, roof of the mouth, or over the heart—these are all traditional suicidal events that the doctor has been trained to recognize instantly. He may also recognize the suicidal nature of a cut throat which is done with the help of a mirror, the significant grasping of a weapon by cadaveric spasm as it was at the moment of death, and the careful preparation of a coal-gas suicide to prevent ventilation—the circumstantial features that may support his medical findings. He is entitled to use these things to help him evaluate a case.

It is when these classical suicidal features are absent—when the throat wound does not follow the rules or is accompanied by protective hand wounds, when the firearm wound is in an inaccessible part of the body (Fig. 4), or where there is some similar cause for uncertainty—that the doctor must go cautiously. Perhaps some accident is responsible, but only careful inquiry can decide such things, and this inquiry is outside the doctor's province.

When the medical findings are equivocal a doctor is entitled to know what the circumstances were, for special alternative explanations of some wound may exist. A man with a blunt head wound may have had some machinery fall on him or have been thrown pitching on to the head, or have been struck with some blunt weapon: it is important to know whether he was working on the docks among loading gear or lying in bed at home. A doctor should certainly obtain all the relevant information he can when injuries of an equivocal kind are present.

A man last seen in loud argument with fellow workers at the entrance to the factory was found dead in the same spot on the ground, alone, about one and a half hours later. He had a head wound (Fig. 5) which could have resulted from a vicious kick from the toe of a boot, but examination of a projecting piece of ornamental stonework at the gate showed some frag-

FIG. 3.—Typical suicidal firearm entry wound—a contact discharge set in one of the "elective" sites. A .32 revolver was lying near the right hand.

FIG. 4.—Typical homicidal firearm wound set behind left ear. No weapon at scene.

ments of cuticle and several head hairs identical with the dead man's. He had marked coronary atheroma, and it was realized that if he were to collapse from this (after heated argument) he could well have sustained the otherwise suspicious head wound which he bore.

The full facts are often enough to throw an entirely new light on the medical observations, often to dissipate suspicion, and a doctor need never hesitate to ask what is known so far in order to form a more definite opinion. It is remarkable how much more one sees of a case when it is ultimately argued between opposing counsel before judge and jury at a trial—a trial of possibilities. Every doctor should have an alert and open mind not readily given to always accepting the first obvious explanation of an event, though not, at the same time, stubbornly refusing to accept a reasonable possibility. Medical evidence should always be carefully reasoned and, therefore, reasonable.

Deaths from grave injuries by the roadside should not arouse suspicion until the possibility of a vehicular street

FIG. 5.—Suspicious head injury. Fracture of skull, showing significant shaping of depressed area*. Suspicion of foul play was allayed by revisiting the scene.

accident has been altogether excluded. Bodies found dead in a busy river may be expected to bear injuries sustained after death from passing craft, crabs, or recovery gear. The mutilated victim found in the yard of a block of flats is as likely to have fallen from a higher floor or the roof as to have been "beaten up." The suffocated body lying face down in the pillow is not unlikely to be that of an epileptic, and infants quite often meet their death as a result of turning their faces into the bedding: their position and deep asphyxial coloration need not arouse suspicion of foul play, though it would be wise never to overlook the possibility. Perhaps the only common error in interpreting the facts is to regard the trussed schoolboy, sometimes found hanging only partly dressed, as a suicide: his is undoubtedly an accidental death during a masochistic session.

The doctor who carefully assesses the fact of death, indicates approximately how long ago it occurred, offers a reasonable explanation of the medical findings, and encourages caution in disturbing things unless he is satisfied foul play can be excluded will not expose himself to abuse or ridicule in court, nor will he be likely to commit significant error. Crime and suicide must be recognized

without delay, and the doctor's elementary forensic training, together with common sense, will not often let him down in these matters. Where accident seems likely or the position is equivocal a cautious sifting of possibilities *pari passu* with the police inquiry is more likely to achieve the correct solution and to avoid wrecking the scene.

EPIDEMIC SMALLPOX IN JIDDAH

TREATMENT WITH ANTIBIOTICS

BY

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In October, 1949, during the closing days of the Mecca Pilgrimage, it became clear that smallpox was occurring in Mecca, Jiddah, and perhaps Medina, three towns visited by most foreign pilgrims, all of whom, it may be noted, are required to be immunized against smallpox and cholera. Epidemic form was assumed in Mecca and Jiddah, and even as late as the end of May, 1950, a few cases were still coming to light. The disease is known to have been carried by pilgrims to at least Egypt, the Sudan, Pakistan, and India.

In Jiddah particular interest centred on some 1,800 Filipinos who journeyed to and from the Hedjaz in the pilgrim ship *s.s. Christobal*, and among whom smallpox made its appearance first in Mecca. They brought cases with them on their return to Jiddah for re-embarkation. The majority, some 1,300, were re-vaccinated in Jiddah—as it turned out, not very effectively—and quarantined in overcrowded accommodation on the island of Abu Saad, off Jiddah. The remainder, some 500, evaded quarantine and revaccination and remained dispersed in agents' houses in the town. Those of all races sick from smallpox and coming to notice were admitted to hospital on the remoter island of Wasita. These Filipinos lost about 8% of their number in the Hedjaz, mostly from smallpox, at least 16% of them suffering from the disease.

Among the 500 Filipinos remaining in Jiddah town there was a sharp epidemic of concealed cases, and it seems that through breaking of quarantine the disease was carried, ironically enough, from these people not in quarantine to their brothers in quarantine on Abu Saad island in conditions ideal for the spread of an epidemic in which both contagion and air-borne infection are factors. Mass revaccination of the Abu Saad community was done again with vaccine known to be potent, and the epidemic closed within the incubation period.

In Jiddah itself, though general vaccination was ordered early, it was extremely slow in getting under way, with the result that the recorded cases—there were many unrecorded—were still rising in incidence long after cases among the Filipinos had ceased. It is thought that altogether in Jiddah there were about 1,000 cases in all races, of whom some 58% died. Most cases were in unvaccinated Saudi Arabians.

Control difficulties were great. Too many authorities were involved for efficiency and speed to be reasonably served. Procedure, staff, accommodation, equipment, supplies, drugs, disinfection apparatus, transport, and petrol were inadequate. There was, in short, general unpreparedness. The islands of Abu Saad and Wasita were shown to be unacceptable as quarantine and