Chapter 9

IRIDOLOGY

Iridology means "study of the iris". The iris is the part of the eye that we commonly refer to when we say that someone has blue eyes or brown eyes. It separates the anterior chamber of the eye from the lens which in turn lies in front of the posterior chamber of the eye. This is shown in a diagrammatical cross-section of the eye as seen from above in Figure 1. When viewed from the front, the iris has a black hole in it known as the pupil through which light passes. Muscles in the iris have the ability to contract or relax thus making the pupil bigger or smaller. The iris is in fact a mixture of muscle cells, connective tissue, blood vessels, nerve endings and pigmented cells, all of which combine to produce various colour patterns.

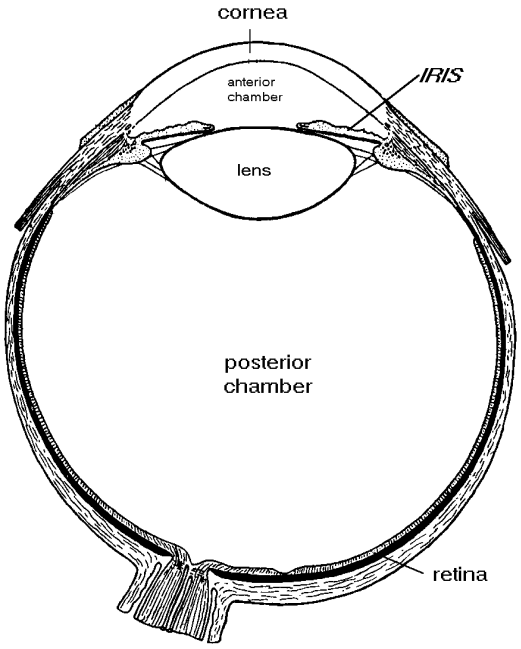

Figure 1. Imagine that you are looking at the eye from above. The important structures, from front to back, are the cornea, anterior chamber, iris.

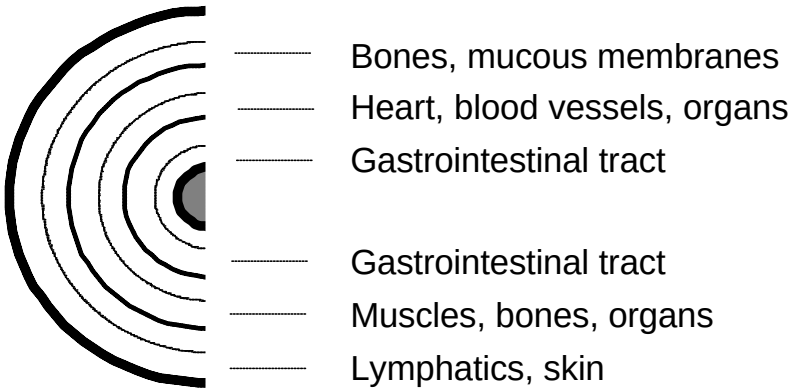

Figure 2. The iris is said to be divided into two concentric parts, each of which represents certain bodily structures.

The iridologist's credo

Iridologists claim that the various parts of the body are represented in certain locations in the iris and that alterations in the functions of body parts are reflected in changes in the iris. This idea was first put forward by a Hungarian doctor, Ignatz von Peczely (1822-1911) who published in 1880 an article entitled "Anleitung zum Studium der Diagnosen aus den Augen" (Instructions for diagnosis through the medium of the eye). It is said von Peczely first conceived this idea as a boy when he noticed a black

A chart of the right iris that is utilised by many iridologists. It claims to localise various organs and bodily structures.

mark in the eye of an owl that broke its leg. As the leg healed, the mark disappeared and was replaced by white lines. Von Peczely believed that the line in the iris represented the leg. Subsequently, he built upon this notion and located areas on the iris which he said related to other parts of the body. Nobody at first took much notice of this assertion but it was then popularised by a Swedish clergyman, Nils Liljequist who in 1890 published a book call "Ögondiagnostiken" (Eye diagnosis). Iridology languished somewhat for the first few decades of this century but then underwent a revival and has flourished since the Second World War, particularly in Europe and the USA.

Different iridologists have different emphases but they hold the same basic tenets. An overall concept is illustrated in Figure 2. There are said to be six concentric zones in the iris. The innermost two represent the bowel, the next the heart, blood vessels and organs,

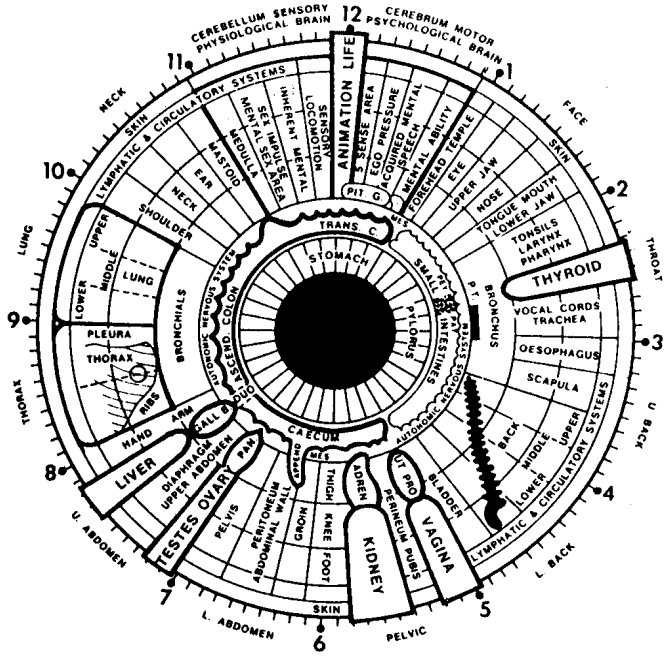

Figure 3. A chart of the right iris that is utilised by many iridologists. It claims to localise various organs and bodily structures.

the fourth indicates the muscles, bones and organs, the fifth depicts the bones and mucous membranes while the outermost one signifies the lymphatics and skin. Within one or more concentric circles, certain specific organs or structures are located in one or both eyes (Figure 3). For example, the kidneys are declared to be placed just to the nasal side of the six o'clock position of each iris. Similarly, the liver and gall-bladder are sited at about eight o'clock in the right iris. The bowel, on the other hand, curves for 360 right around the iris near the pupillary margin.

The basis for these assertions has never been explained by or supported with any anatomical or physiological studies. Under such circumstances, the best way of validating the claims of iridologists is to examine in controlled trials whether diagnoses based upon the appearances of the iris are confirmed by independent medical tests. The scientific base for iridology is so sparse, if not to say ludicrous, that not many medical scientists have bothered to take the subject seriously enough to investigate it. As far as I am aware, there are only two useful reports in the English language on the matter. They have been published in major medical journals of high repute and are quite definite in their

conclusions. These studies assessed whether iridologists really can, as they claim, diagnose disease of the kidneys or gall-bladder.

Can iridologists diagnose kidney disease?

The kidneys are two organs about 12 cm in length that lie at the back of the abdomen just below the diaphragm that separates the lungs from the abdominal cavity. The kidneys make urine which drains via two tubes (the ureters) into the bladder whence it is passed via the urethra during urination. The job of the kidney is to detoxify the body by removing the products of metabolism from the blood-stream. When the kidneys do not work properly, these products are retained and their concentrations in the blood-stream rise. One such substance which is used commonly by doctors as a marker of kidney disease is creatinine. Normal people have somewhere between 5 and 13 mg of creatinine in every litre of plasma (plasma is blood minus its red cells and white cells). As already remarked, iridologists believe that they can diagnose kidney disease by finding abnormalities in the iris of either eye just to the midline of the 6 o'clock position (Figure 3).

Three investigators at the University of California and the Veterans Administration Medical Center in San Diego, California in the United States decided to test this proposition. The researchers were Allie Simon, David M Worthen MD and John A Mitas II, a lieutenant in the Medical Corps of the United States Navy. They selected 48 patients at the University of California Medical Center and at the Veterans Administration Medical Center in San Diego who had renal (kidney) illnesses ranging from a mild disorder to severe disease requiring treatment with an artificial kidney. The severity of illness was assessed by the rise in the creatinine level in the plasma. The patients were divided into the two groups of moderate and severe disease with average plasma creatinine levels of 25 and 106 mg/litre, respectively. In addition, they chose a control group of 95 male and female adult hospital patients who had no kidney disease. The average creatinine concentration of this control group was 8 mg/litre. Photographs were then taken of the irises using a camera that belonged to an iridologist. The slides were then given to a panel of three iridologists without any information as to the number of people in the three categories or any knowledge of each person's medical history. Two of the three iridologists had a doctor of chiropractic degree and one had obtained a qualification in iridology under the direction of an expert in the field. In fact, one of the iridologists was world-renowned and was the author of America's most popular book on iridology.

Ms Simon and her colleagues published the results of their study in a paper[1] entitled simply "An evaluation of iridology". Their findings are summarised in Figure 4. Iridologist

[1]Simon A, Worthen DM, Mitas II JA. *Journal of the American Medical Association* 242: 1385-1389, 1979

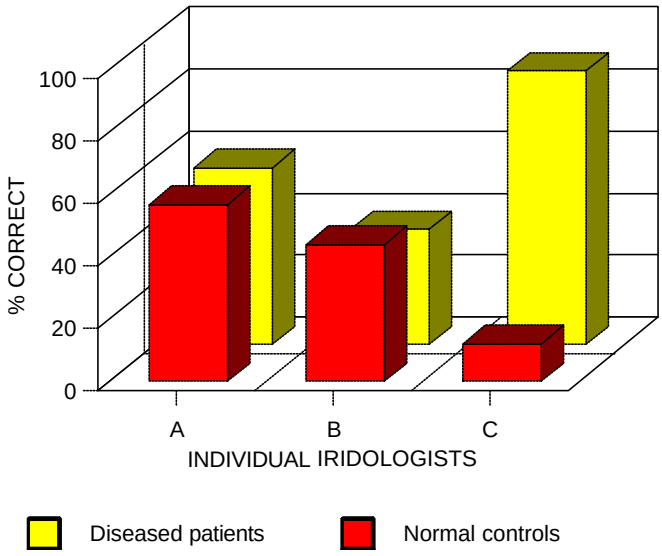

Figure 4. Percentage of correct diagnoses by three iridologists, code-named A, B and C, for patients with proven kidney disease and in normal control subjects.

A was correct in 57% of cases in both groups, correctly diagnosing renal disease in 57% of patients and its absence in 57% of control subjects. This result is very similar to the 50% that would be detected by chance. Iridologist B was correct less often than would be expected by chance, finding abnormalities in only 37% of patients with kidney disease and noting their absence in 44% of control subjects. Markedly discordant results were obtained by iridologist C. He seemed very good in detecting evidence of renal dysfunction in 88% of patients with kidney disease but he was correct in only 12% of control subjects because he found evidence of renal disease in 88% of people who had perfectly normal kidneys.

When the analysis was restricted to comparing results for patients with normal kidneys with those obtained from patients with only the more severe renal disease, the iridologists' ability to discriminate between the two groups did not improve.

The authors of this study had no difficulty in concluding that "there is no value in iridology as a screening technique for detecting or diagnosing kidney disease". They were quite forthright in their summation that "iridology was neither selective nor specific, and the likelihood of correct detection was statistically no better than chance".

Can iridologists diagnose disease of the gall-bladder?

The gall-bladder is a small sac below the liver which stores bile produced in the liver before discharging it into the duodenum (the upper part of the small intestine) via the common bile duct. The most frequent disorders of the gall-bladder are acute inflammation (cholecystitis) and the formation of gall-stones in the bile in the gall-bladder. If these stones move through the bile duct, they may cause severe pain in the abdomen that is called biliary colic.

Iridologists claim that they can diagnose gall-stones by observing three small dark spots in the iris of the right eye near the pupil at about the 8 o'clock position (Figure 3). Furthermore, they believe that if there are white lines present, then the gall-stones are accompanied by inflammation.

Doctors, on the other hand, are able to diagnose gall-stones relatively easily by X-ray or ultrasound examination and the stones can be clearly seen by patients themselves if they view the films. Acute cholecystitis is a little more difficult for medical practitioners to diagnose as there are other conditions that can produce similar symptoms and signs. Most patients with acute cholecystitis have a fever and pain in the abdomen on the right-hand side just below the rib-cage. They lose their appetite and may vomit, and are extremely tender when the skin is pressed at the site of the pain. Patients with cholecystitis may or may not have gall-stones and vice versa.

Paul Knipschild MD, professor of epidemiology in the department of epidemiology and health care research at the University of Limburg in Maastricht, The Netherlands, therefore set out to test whether iridologists could diagnose gall-stones. He chose 39 consecutive patients, 14 men and 25 women, with acute cholecystitis who were going to have their gall-bladders removed on the following day at the Academic Hospital in Maastricht. Subsequently, the diagnosis of gall-stones was proven or disproven when the gall-bladder was opened after the operation and the presence or absence of gall-stones was confirmed. For a control group, he chose a number of patients with unrelated disorders and normal volunteers and matched them as closely as possible for age and sex to the patients with acute cholecystitis. He made sure that none of these control subjects had gall-bladder disease by performing an ultrasound test. Finally, since gall-stones blocking the bile duct can cause the whites of the eyes to go yellow (a condition known as jaundice), all such patients were excluded from the study. He then made stereo colour photographs of the right iris of the 39 patients and the 39 control subjects.

Five iridologists, two of whom were also medical doctors, agreed to participate in the study. They were then given the photographs in random order and told only the age and sex of each person and that some subjects had gall-bladder disease. The iridologists were asked to assess the likelihood of each person having gall-bladder disease as "definite", "probable", "possible", "do not know", "possibly not", "probably not" and "definitely not".

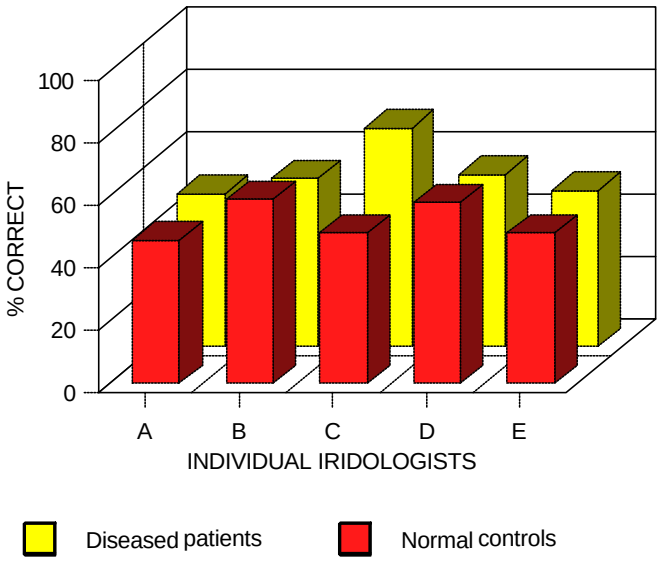

Figure 5. Percentage of correct diagnoses by five iridologists in patients with proven gall bladder disease and in normal subjects without gall-stones.

Professor Knipschild reported his findings in an article[2] called "Looking for gall-bladder disease in the patient's iris". The iridologists between them made 390 assessments. Of these, only 21 (5%) were scored as "do not know", and most of these (15) came from one iridologist. Prof. Knipschild therefore excluded this small number and analysed the remaining 369 results and divided the answers into two groups: positive (which included the "definite", "probable" and "possible" categories) and negative (which included the "definitely not", "probably not" and "possibly not" categories).

The results for each of the iridologists are shown in Figure 5. If iridologist A is taken as an example, he diagnosed gall-stones in only 49% of the 39 patients who had them and he correctly diagnosed their absence in 46% of the 39 control subjects. To put it another way, he missed the diagnosis in 51% of patients and found gall-stones in 54% of the 39 people who did not have them. It can readily be seen that similar results were obtained by the five iridologists. If all the results were pooled, the iridologists were correct in 55% of patients and 52% of control subjects. That is, there was about a fifty-fifty chance of their being correct. Similar results would have been achieved if the diagnosis had been obtained by merely tossing a coin.

To be sure that he was being fair, Prof. Knipschild then re-analysed his data with

[2]Knipschild P. *British Medical Journal* 297: 1578-1580, 1988

more stringent definitions of "positive" and "negative". He classifed "definite" plus "probable" as "positive" versus "definitely not" plus "probably not" as "negative". The results were very similar. He then determined whether the iridologists agreed with each other in their diagnoses. He found that their consistency was 60% which was little better than the 50% that would have been expected by chance. With considerable understatement, Prof. Knipschild commented that "for people who believe in iridology as an important diagnostic aid my results must be disappointing". He concluded quite unequivocally that, with respect to gall-bladder disease, "this study showed that iridology is not a useful diagnostic tool".

Do doctors pay any attention to the iris?

Certainly. The iris and the pupil may be altered in a number of diseases, both of the eye itself and in generalised conditions. For example, in glaucoma (raised pressure of the fluid in the eye), the iris appears dull and patternless while the pupil is dilated and does not constrict in response to a light shined onto the eye as it normally does. Similarly in iritis (inflammation of the iris), the pupil becomes constricted. In syphilis (an infection which may afflict many parts of the body), the pupil becomes small and irregular in shape and fails to react to light. While observations of the iris and pupil do indeed give useful information, it is worth knowing that even more information may be obtained when doctors inspect the retina at the back of the eye in patients with such diseases as diabetes mellitus and uncontrolled hypertension.

Conclusions

Iridology does not have much going for it[3]. From anatomical and physiological points of view it makes no sense and no scientific evidence has ever been provided to support the existence of a significant connection between the iris and other parts of the body. But the really important test is whether or not iridologists are able to diagnose disease. Two well-controlled, double-blind trials have shown that they cannot. There seems little choice but to conclude that people who practise iridology are either charlatans or are deluding themselves. On the other hand, those who consult them about their ills are either gullible or ignorant; they are exercising:

Blind faith

[3]Ernst E. Iridology: not useful and potentially harmful. *Archives of Ophthalmology*. 118: 120-121, 2000