CardioRetinometry® Solves the Riddle of the Retinal Arteriolar Reflex: A Review of Experience with a Contact Lens Wearing Population, with Life Extending Possibilities

Abstract
In 1999, 18 months after installing the first UK electronic fundus camera, changes in the central artery and vein of the retina (CA&VOR) were noted, corresponding in such circumstances, with predicted atheromatous pathology hypothesised by Nobelist Dr Linus Pauling PhD, and cardiologist Dr Matthias Rath MD. Intended for sequential retinal photography to reveal microscopic "nasal shift" (NS) of the CA&VOR, NS is pathognomonic of primary open angle glaucoma before characteristic visual field losses risk permanent damage to sight. Benefiting from the frequent opportunities for checking, provided by aftercare required by captive contact lens wearers, informal epidemiological study of this contact lens wearing population of over 2,000 people produced over 400 sets of complete images ranging over periods from 1998 mostly of 2 to 12 years. Throughout this time, the entire patient base of contact lens wearers was available as part of their aftercare at intervals of 3 to 6 months. Because of the risk of opportunistic eye infections every patient was questioned at every examination by qualified nurses, regarding inclusion of antioxidant to optimise the immune system and reduce risk of allergic conjunctivitis and infection. A pattern emerged of non-compliant patients’ fundii showing slow, expected deterioration of circulation, discomfort with soft contact lenses, and a higher annual "drop-out" rate. The customary annual "drop-out" rate of 30% of non-supplement supplying practices was never achieved. Instead, a stable population with continuing general reduction of arteriolar reflex was noted. Further research is needed to establish whether or not contact lens wearing in such circumstances can lead to life extension as claimed by enthusiastic medical contact lens wearing patients. Because Michelson, Morganroth, Nichols and MacVaugh assured close retinal correspondence with coronary heart disease, author Bush was illegally struck off, for claiming incipient coronary disease cure below the corresponding, medically ignored <49% "normal" atheroma.

Introduction
Contact lens practice, with the first video slit lamp microscope, and new found ability of the Sony picture in picture full colour image processor printing to hard paper, video recording, and video playback of captured circumcorneal vessels in the late 1980s was an exciting time. All patients were quickly found to gain benefit from antioxidant supplementation, leading to white
eyes, less discomfort and apparently fewer infections. Much was learned of the effects of antioxidant nutrition on the circumpenial vasculature before the advent of the electronic fundus camera enabled closer study of the retinal microvasculature. The help of the Nebraska University’s Father of free Radical Theory of Ageing and Disease (Nov 1954) Professor Denham Harman [1] was enlisted and he spent a week in Hull with author Bush also lecturing a joint meeting of Optometrists with the British Medical Association.

This opened a new dimension for retinal study searching for NS of the CARVOR with a succession of retinal cameras before the introduction in 1998 of the first electronic fundus camera by Topcon enabling the instant demonstration at ultrahigh magnification of microscopic displacements of the CARVOR, the smallest variations of position to becoming detectable. The first electronic corneal endothelial microscope to enter the UK was also acquired for parallel endothelial studies. Current teaching and many medical websites are wrong: The retinal arteriolar reflex is here shown to be intraluminal atheroma impeding circulation. The arteriolar reflex has always been taught as an “ensheathment” of the arteries, “a healthy sign,” or, as some say, a thickening of the arterioles. The latter is seen to be immediately untenable for it completely fails to explain why the reflex can be equally visible in the venules and is seldom an intraluminal atheroma forming a blockage.

This is very worrying and incredible that it has been allowed to carry on. Could it be because, here is visible confirmation of rejected Pauling-Rath theory? The Modeno Atlas and modern books on Ophthalmology provide similar retinal depictions of streaked arterioles and venules stating that they represent the “normal healthy fundus.” Author Bush states that it is because the classification is so very wrong that cardiologists laughingly assure their patients after X-Ray coronary angiography that they are “Grade Zero,” but it “does not mean that they cannot drop dead as they leave the hospital!” With up to 49% blockage of all three epicardial coronary arteries this is difficult to accept as satisfactory and people like Mike Reid taking the part of Frank Butcher in the TV “East Enders” did exactly that within a few days of leaving hospital after his X-Ray coronary angiography resulted in his being given the “all clear.” Certainly, we can expect that his retinal vessels on fundoscopy would have been no different in his being given the “all clear.”

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Hollenhorst Plaque

The riddle of the retinal arteriolar reflex starts with Dr Robert W Hollenhorst [2] who contributes most to our early, fundamental knowledge yet, apart from his name attaching to the often, but not always “Y” shaped plaque, noted at arterial and some venular bifurcations, his work has been largely ignored. This is very mysterious. Contemporaries were more active in the area of this research than today where we find no willingness to recognise or even discuss the arteriolar reflex except in terms of atheromatous reflex of varying width proportionate to the diameter of the vessel and significance for hypertension – nothing else. Indeed, the paper that was most exciting revealed that in 1979 cardiologists Michelson [3], Morganroth, Nichols (Ophthalmologist) and MacVaugh graded the coronary atheroma score as follows: simply regarding the white streak on vessels as a reflex.

G0 = Normal up to <50% stenosis of all vessels.
G1/2 = ≥ 50% but <70% stenosis of one vessel (other than Left main coronary artery).
G1 = ≥ 70% stenosis of one vessel or ≥ 50% occlusion of left main coronary artery.
And the Light Reflex Changes
Grade 0 = Normal thin walled arterioles
Grade I = Minimally increased light reflex
Grade II = Increased approaching whole width of arteriolar wall
Grade III = Colour change, copper wiring
Grade IV = Obliteration of vessel wall, silver wiring

They commented that “the data suggest that in selected patients abnormal funduscopic findings reflect the presence and extent of coronary artery disease—even minimal light reflex changes were found to be very sensitive although not specific indicators of coronary artery disease.” “An abnormal light reflex identified 46 of 47 patients with coronary artery disease (98% sensitivity)->GI, 100% specificity was specific and, in addition predicted occlusion underlying coronary artery disease.” The abstract to their papers states: “Retinal arteriolar changes were graded with respect to light reflex, vessel calibre, arteriovenous crossing defects and vessel tortuosity -and continues” Each coronary vessel was graded with respect to its most occlusive lesion by angiography -etc”. Here we see the discrimination between the “reflex” in the retina arterioles, and the “most occlusive lesion” in the coronary vessels. Why? This paper is not intended to more than touch on the importance of the retinal arteriolar reflex and it is therefore beyond its remit to go further into the importance discovered by the three cardiologists relating to coronary artery disease diagnosis and calibration through the simple expedient of retinal artery evaluation. Obviously, if a convenient mistake has been made, that thwarts the best practice of Optometrists to alert to dangerous levels of coronary arterial heart disease, by falsifying their education, massive socioeconomic effects could result.

This could have genocidal implications rendering useless, an entire profession dedicated and highly trained in the observation and recording of retinal defects. In July 2016. An Optometrist was found guilty of “Manslaughter” after failing to diagnose a brain tumour in a young person. Author Bush considers himself fortunate never to have found himself alleged to have missed a dangerous disease in his 57 years of practice. But with over 50% of the Optometrists’ patients throughout the UK and further afield dying prematurely of deficiency related coronary heart disease, which is guilty of manslaughter on an epic scale? It cannot be the Optometrists. It can only be those who are keeping the truth to themselves. My sympathies lie with my fellow Optometrist,

Honey Rose, who would not deliberately risk this. It is very rare in children to find brain tumours with retinal involvement. I am sure that she is an excellent and caring Optometrist who has been misled by the fraudulently poor training she has received, and in due course a review of these injustices will be called for. Has the training of Optometrists been sabotaged?

The work of Hollenhorst and his review suggests it has. Has the public been exposed to a “cover-up” set in place to preferentially offer the crude and dangerous X-Ray coronary angiography and then a house remortgaging heart bypass procedure? The temptation versus the loss of (USA) $200,000 procedures may have changed perceptions re the relative value to cardiologists of the surgery for a deficiency disease. If so, the entire fraud, if there has been one, depends entirely on no Optometrist being allowed to discover the truth. So what do we find when we look at the history of the discovery of CardioRetinometry®? Exactly that: Violent opposition: Illegal decisions: Malfeasance by health authorities: Perjured evidence sent to the General Optical Council. (GOC): Threats to deny future contracts: Threats to strike off the register: Computer attacks; and two forced relocations by the practice landlords without good reason. The BBC ban on author Bush after explaining his suspicions to the public, and the true history of New Zealand Farmer Allan Smith, and finally what author Bush claims was his absurd restoration to the register two years after retirement at age 80, for the purpose of enabling his illegal strikings off the register solely as a warning to other optometrists (?) to disregard his teaching on the retinal arteriolar reflex? This in the face of repeated newspaper reports by celebrated medical journalist and worldwide syndicated columnist, Dr Kenneth Waller MD (Harvard) who compiled by the Canadian Medical Association to write under a pen name, is writing as Dr W Gifford-Jones MD. And repeatedly claims that “Dr Bush’s Historic Discovery is Worthy of the Nobel Prize.”

However, the GOC, in its wisdom, discounted this, 200 written testimonials, and its life saving potential for practising beyond his qualification despite Medical and nutritional authorities supporting him. This is all highly relevant to a covr-up? Frustrating the research of the retinal arteriolar reflex, the literature shows few abstracts available for papers before 1975, and the research becomes extremely time consuming and tedious. But with the help of Google, progress was made. Puzzled by this, author Bush performed a small and probably, by the standards of critics, inappropriate experiment. In this a plastic tube was pushed into butter to represent plaque. Immersion in water then showed that strong reflection from the tube itself (representing the arteriolar wall) largely disappeared under water. Author Bush would expect to find this in exactly the same way in the eye.

In addition to this, his studies of the circumcorneal vessels showed little reflex from either the vessels or the overlying conjunctiva. These tissues are not at all reflective any more than meat on a slab until it is made wet. Would we expect an artery that has been on a meat platter until it is made wet. Would we expect an artery that has been immersed in water?
Amongst these he credits Panum [10] in 1862 with being the first to report embolization of material and Hollenhorst states that the coronary artery was eventually occluded causing death. Gowers (1875) restricted to candle light and indirect ophthalmoscopy is credited with recording the first “minute granular masses in the central artery of the retina with corresponding blindness). Minton [7] reported a clinical study of 54 cases of central arterial occlusion without mentioning bright features. Michel [11] found a bright yellow thrombus in the central artery at autopsy. Elschnig [12] had a patient with atheromatous occlusion of the internal carotids, ophthalmic artery and central artery of the retina. Fisher reported a few cases and Duke-Elder also but their mention of bright particles was very limited compelling Hollenhorst to comment. He went further. Hollenhorst then makes the profound statement that he “has often seen these plaques break up and move, dispelling any notion that they can be sourced to the adventitia.” This clinical observation supports author Bush’s view that Linus Pauling [13] was 100% right when he proposed with Rath [14] that the antioxidant was playing a major part in the endothelium.

Clearly then, Hollenhorst himself, before the matter was debated by the authorities at the time in the discussion ending his paper, also had to agree, that the motility of the bright plaques precluded their being in any way associated with the adventitia of the arterial wall, and they certainly could therefore never be attributed to any kind of “ensheathment,” that as its name suggests, is static. This is all well confirmed in thousands of CardioRetinometry® time lapse retinal photographs. Briefly, Pauling and Rath state that the atheroma in all the vessels wherever it occurs, has to be the result of a “metabolic countermeasure” deriving from a surrogate application of Lipoprotein alpha, found only in Man, and purposed in the blood to provide cover for conditions of malnutrition when collagen cannot be assembled due to lack of one or more of its constituent components. This is a “back-up” for the second defence in Man, a “genetic countermeasure” seen as thicker walled arteries than in vitamin C producing animals. It is not the purpose of this paper to go further than to record the events, cite the evidence, connect it to the known hypotheses, and ask the question: Could the hypothesis of Pauling and Rath, supported by Michelson, Morganroth, Nichols, and MacVaugha augmented now by direct observation of presumably beneficial changes in the retinal vasculature satisfy the following criteria to support their hypothesis? To do so (and author Bush believes it proved now by CardioRetinometry®) their hypothesis

must meet and overcome challenges from the now visible –

i. Reductions of retinal arteriolar and venular “reflex,” accompanied by

ii. Widening of vessels,

iii. Greater blood flow,

iv. Visibly improved perfusion of the retina,

v. Reduced pallor of the optic nerve,

vi. Reductions of optic atrophy shown by

vii. Apparent recovery of disc shape, eduction of retinal ischemia,

viii. Reduced arteriolar and venular tortuosity and

ix. Reductions of giant cell conjunctivitis and conjunctival hyperaemia in this population of contact lens wearers, all pointing to a new approach being needed to the teaching of Optometry, Ophthalmology, ophthalmological disease and its management?

The subject of CardioRetinometry® is now expected to be the source of hundreds and possibly thousands of papers as practitioners explore the possibilities if offers for evaluation in real time of the effects of all kinds of nutrients and substances on the corpus humanus. Statins, antioxidants, medications and nutrients of all kinds need to be researched. One of these papers is expected to address the gap as shown in the listed citations between 1959 and 1995. Apart from Duke-Elder, little was
reported of value except Flory [15] mentioned arterial occlusions produced by emboli. Between 1961 and 1989, it is as if the world was mostly forgetting about pathology in the retinal veins and their potential for relevance to systemic disease. We cannot go back in time, but work that we should expect to have been done and should have been done does not figure in the archive.

In fact it has already been addressed and the “beading” that is hypothesised in the paper by Gregson et al. [16] in 1995, will be examined in a completely different light, with different methods and it will be seen that the beading can be made to disappear in a few months. That will probably be the first of many papers to follow on the subject, but the purpose of this paper is simply to give notice of some of the things that have been discovered, nothing more. As a clue to what is to come, the retinal photographs below are offered for study. When new techniques are announced, a flurry of interest and “me too” papers tend to appear. A similar event occurred with the introduction of fluorescein retinal angiography. Some, thinking about fluorescein angiography may therefore say that this is not new. Fluorescein angiography is an invasive procedure with severe limitations. With CardioRetinometry® there are no limitations. One can take photographs until the subject falls asleep.

X-Ray coronary Angiography

With X-Ray coronary angiography not only is the procedure itself complicated, inaccurate and unrepeatable because of the radiation burden, but there is an incidence of 2% of new cancers that cardiologists rarely mention. There would seem to be little justification for X-Rays for what is a suspected metabolic deficiency and now, even less for surgery for an antioxidant deficiency. In the “normal” course of events over a period of 16 years, from 1998 to 2014 as shown above, the expected change would be from Left to Right as atherosclerosis develops, circulation deteriorates and death slowly approaches. Here we see the deterioration nor only arrested but reversed. All the vessels are functioning better, neural recovery is evident. Blood flow is greatly improved and if the peripheral vasculature were shown it would be seen to be better perfused with reduced tortuosity of the vessels. The images are of the retinae belonging to author Bush’s older son born in 1956. His fundi now resemble more what we might expect to see in a very healthy 20 year old, and definitely better than we would expect to find in a sportsman engaged in competitive events with corresponding stress (Figure 3).

As stated, it is not the purpose of this work to deal with coronary artery disease. After Michelson et al., in 1979, it was almost as if a signal was sent to other researchers that future work in this area might be counterproductive. Thus it rested, until the Croatians Ugrica D et al. [17] possibly appeared to fear no consequences. Nothing could be found of significance published after that in PubMed in a search for “Retina AND atherosclerosis.” When Dr. Russell Watkins [18] alerted author Bush to research by Wong TY et al [19] in 2004 and replying on July 23rd 2004, an invited Rapid response was published by author Bush. After that, the provocation by author Bush, publishing retinal photographs of reductions of retinal arteriolar reflex on the Internet in 2002 set more researchers looking. Even though Wong ignored the rapid responses he received, others were stimulated. By coincidence, Chapman et al. [20] published, and then a small flood, Fernandez et al. [21], Tedeschi-einer [22], Tabatabae et al. [23], Pikuleva et al. [24], De Boever et al. [25] and doubtless many more are ‘in the pipeline.’

Conclusion

The regular and frequent evaluation and comparison of time lapse retinal photographs at ultrahigh magnification provides a tool for the measurement of scurvy that has never been recognised and is now available. The first medically qualified doctor to take the course with high aptitude is expected to graduate and immediately start offering life extension in May 2017. It is expected that he will have charge of the lives of senior government and key people in society on whom we depend for stability of the West.

Until more physicians study what has been shown to be a one year course for those of high aptitude, and a two year course for less able physicians, it is clearly useless to consult any doctor in the West who cannot avoid the same fate as his patients, and will die of the same coronary heart disease or other avoidable cardiovascular disease. The monitored nutritional protocol of CardioRetinometry makes it possible to almost certainly eliminate 98% of thrombosis and fatal coronary heart attack risk. This is well supported by the work of Double Nobellist Dr Linus Pauling and cardiologist Dr Matthias Rath amongst many others. 50% life extension is becoming a reality. Ten years ago author Bush published “Pensions Funds to Crash.” It is happening. Eventually, everybody who wants the best chance of avoiding at least 50 scurvy related Diseases to 110+ will want to be registered with Doctors of CardioRetinometry (DCardioRet). The Biblical prophesied 120 year lifespan in Genesis 6:3 may well be achieved from a sufficiently early start, with 6 monthly checks to adjust nutrition as needs vary with age. The Cosmopolitan University enjoys the distinction of being the first to have a Faculty of Optometry and CardioRetinometry. Because it is not accredited, it is free of State control that has overseen restriction of medical education exposed in this and other papers by Author Bush, who derives little pleasure from his discoveries regarding medical corruption, misleading papers, the corruption of the PubMed

Conflicts of Interest

There is presently no commercial interest on the part of Dr Bush except in providing post-graduate training and the new degree of Doctor of CardioRetinometry® (DCardioRet) to primary health care professionals eg Physicians and Optometrists, whose education in medical schools did not exhaustively include Life Extension, life shortening Scurvy in its many focal occult forms, nutrition, the vastly subjective ascorbate biochemistry, ophthalmology, physiology, pathology and the Sanarelli-Schwartzman, generalised non-specific uniform mesenchymal reaction, all relative to cellular health and prevention and to form the basis of many future papers. Toxicomolecular Medicines—

References