

# The Electrical Terrain and Novel Proposals for Fighting Malaria Assessed in Relation To the Germ Terrain Duality Theory



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## Short Communication

The Germ-Terrain duality theory of disease states that the aetiology of certain diseases/diseased states is better explained as a complex interplay between germs and the inherent anatomical/physiological integrity of the body cells. It argues that the aetiology of certain diseases is not fully explained merely by the presence of germs (Germ Theory) or by a mere loss of cellular integrity (Terrain Theory). As a result, the prevention and treatment of such diseases should focus not just on fighting germs but on maintaining/restoring the anatomical/physiological cellular integrity. The Germ-Terrain duality theory is a harmonization of the current Germ Theory (popularized by Louis Pasteur) and the hitherto discarded Terrain Theory (popularized by Pierre Bechamp) [1].

Apart from the PH [2] and size/shape [3] of red blood cells another terrain parameter considered under the germ terrain duality theory is the electrical charge of the red blood cells. Red blood cell charge reduces during malaria. A change in electric charge affects germs (including malaria). The zeta potential is the degree of negative electric charge on the surface of a red blood cell, which is expressed in milli volts (one thousandth of a volt). The normal zeta potential of red blood cells is -15.7 milli volts. This is largely due to sialic acid residues in the membrane of red blood cells that get exposed because when sialic acid is removed from red blood cells, the zeta potential changes to -6.06 milli volts [4]. The human body is packed with electricity and full of electrical activity. Electricity is the flow of electrons, and the body is chock full of electrons and thereby electricity. The myriad of synaptic connections in the central nervous system of the brain and spinal cord communicate with neurons via electricity, enabling us to make sense of our world via all the five senses we utilize. Human muscles have electrical activity which can be recorded by electromyography (EMG). Brain electrical activity on the other hand is recorded with electroencephalography, while electroretinography records the changes in the electrical potential of the retina of the eye. Electricity, previously used to stimulate nerve/muscle function and to treat

mental illness (electroplexy, ECT) is now being proposed as a cure for malaria!

Unconventional treatments being experimented with/proposed to treat malaria at present include:

a. Zapping/Zappers/Blood electrification: the patient is intermittently zapped with electricity to adversely affect/kill plasmodium and to prevent plasmodium proliferation. Voltage is kept at safe levels.

b. Cell Softening: since plasmodium/malaria causes cells to stiffen, the malady is combated by cell softening. Softening, it is proposed, will be achieved by drug molecules breaking protein links between the knobs and the cytoskeleton [5].

c. Carbon Monoxide Therapy: (tested so far only on mice) by using a carbon monoxide releasing molecule [6,7].

d. Around the world, scientists (and even laymen enthusiasts) are proposing and experimenting with different ways to control, treat and prevent malaria that are focussing less on conventional and direct attacks (via antimalarial drugs) on the germ (the protozoa plasmodium) and more on the human terrain. Consciously or unconsciously these scientists are validating the germ terrain duality theory and concept.

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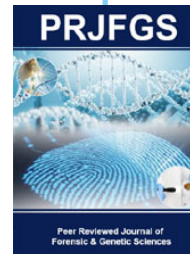
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