SDRP Journal of Computational Chemistry & Molecular Modelling

SITE ATTACHMENT INHIBITION THERAPEUTICS: A NEW MODE OF ACTION PATHWAY FOR ANTIMICROBIAL THERAPY

ISSN: 2473-6260 Research

AUTHOR: **Dr Simon Raymond** June 2017

Dr Simon Raymond MPH*

Alumnus of Melbourne University, Australia

CORRESPONDENCE AUTHOR

Dr Simon Raymond,Consultant, Alumnus, Melbourne University, Parkville, VIC, 3010, Australia
Email: simonraymondcontact@gmail.com

CONFLICTS OF INTEREST

There are no conflicts of interest for any of the authors.

Received Date: 23th May 2017
Accepted Date: 01st June 2017
Published Date:05th June 2017

EXECUTIVE DELINEATION

The concern with respect to antimicrobial resistance and the associated health threat has gained increasing attention and there has been difficulty in gaining traction globally. Given the lack of success by the two pathways established to date which have focused on: 1) "replication of infective agent" and, 2) "immune system enhancement," the current researcher has conceptualized and developed the new, or third, mode of action pathway represented by *"site attachment inhibition (or, negation of cellular attachment by infective agents)."* The current author anticipates site attachment inhibition therapeutics to include drug (medication) based therapies, stem cell based treatment (including prenatal and earlier) incorporating new generation immunization methods, and waveform (E.g. electromagnetic radiation) based treatment. With respect to viruses, support for the likely success of the new mode of action pathway: A) the known CCR5-Δ32 mutation achieves resistance (immunity) against HIV through negation of cellular attachment; B) other areas of medicine use analogous receptor antagonism (E.g. beta blocker therapy); C) advanced IT uses analogous site attachment inhibition to remove viruses. With respect to bacteria, support for the likely success of the new mode of action pathway: A) advanced IT uses analogous site attachment inhibition to remove IT infections; B) glycoproteins (or, glycoprotein receptors) represent key sites for attachment and, analogous to glycoprotein IIb/IIIa medications which inhibit (negate) platelet aggregation and thrombus formation, it seems reasonable to pursue antagonism or blockade of other glycoprotein receptors in order to prevent bacterial attachment to human cells (note: this is also relevant to viral infections); C) the human immune system coats infective agents in an attempt to negate cellular attachment, therefore this mode of action represented by site attachment inhibition makes scientific sense.

Attention must be directed toward correctly identifying the target receptors and appreciating the difference between association and causation. Looking at mutations noticed in the human population and connecting this to the innate resistance they possess to certain infections is not enough as this may simply represent association as opposed to causation. Even the known CCR5-Δ32 mutation has not been completely confirmed as direct/causative of the inhibition of attachment observed in research analyses.

There is direct relevance to cancer: Examples include: (A) the vaccine (immunization) against HPV used for prevention of cervical cancer; (B) tamoxifen used, through antagonism (or, blockade), of estrogen in preventing further issues relating to breast cancer development (or, metastatic spread).

FUTURE RESEARCH

Future research by the current author will likely include delineation of the application of quantum physics to medicine and surgery, starting with neurology and immunology, and in what circumstances this is appropriate.
The merger between fields including immunology, neurology, IT, and advanced physics (quantum physics) that appears likely to commence.
Further exploration and delineation of the relationship between memes, mind viruses, IT viruses and biological viruses.

Detailed delineation of new generation immunization methods in the process of development by the current researcher (author), based on site attachment inhibition, briefly detailed by the current author in previous reports, including by way of stem cell therapy at the prenatal stage or earlier, of which evidence in support of the likely potential for success being that of the above mentioned CCR5-Δ32 mutation (with association and causation issues being taken into account). Previous attempts by other researchers at new generation immunization strategies have failed. For instance, attempts to use attenuated versions of the infective agent in order to invoke an immune response designed to create antibodies capable of interfering with attachment of infective agents were unsuccessful.

The current researcher seeks to have a degree of future guidance, whether it is based on implied (or, express) patent type reasoning, with respect to site attachment inhibition therapeutics.
Further details regarding the unique new mode of action pathway, site attachment inhibition, specifically that the only previous related research (or, minority research) is that which focused on aspects such as masking foreign entity identification and related methods (a type of subcategory blockade).

From the research presented by the current author and that of previous researchers, it appears clear that glycoproteins and proteases represent important biological factors involved in the transfer (E.g. endocytosis, and macropinocytosis) of infective microorganisms into the human cellular system. It can also be seen that these biological factors are important constituents of the blood, with examples being that Von Willebrand Factor represents a glycoprotein and Trypsin a protease. Keeping in mind that proteases are involved in both the endocytosis of infective microorganisms and also in the uptake (including endocytic process) of iron, a ratio (or, other measure/indicator) could be constructed which reflects the relative amount of protease that is being utilized for uptake of the infective microorganism(s) of interest relative to the amount of protease being used by the person of the body for energy production. This could be used to track progress against an infectious disease not only on an individual level but also on a national, continental or global level (E.g. against HIV and Ebola) by way of random sample analysis. Note that a ratio regarding blood homeostasis could also be developed utilizing such biological factors as mentioned above and this made relative to the above circumstances, as detailed.

As discussed in previous reports by the current researcher, there is possible consciousness being demonstrated by microorganisms. Discussion regarding such is presented by the author in previous reports cited/referenced below in the current report. It should be noted that in consideration of the potential demonstration of consciousness by bacteria and viruses, the medical profession would seem well-advised to shift away from the previous line of thought revolving around terming bacteria as living and viruses as non-living on grounds that appear to be discriminatory, noticeably that the agents termed living are those which are similar in structure to the human cells and those termed non-living are those that are dissimilar (E.g. lacking the arbitrary indicators of cell wall and golgi apparatus). It may seem optimal to shift the focus to the demonstration by each type of infective agent with respect to indicators of consciousness. It would seem that even if such agents demonstrated levels of consciousness (or, ability/awareness in sensing surroundings) the administration of antimicrobials may still be ethical by way of necessary self-defense of the person. Perhaps though, in developing new antimicrobial pathways, it is suggested by the researcher that, given the potential ethical debate regarding consciousness, or ability to sense surroundings, of infective agents, that at this stage the scientific community steer clear of developing agents that directly attack the mechanisms of consciousness (or, sensing abilities) of the infective agents. In any event, viewing infective agents as conscious, or possessing some level of awareness, Doctors (For instance, clinical) must not view themselves as having a right to kill a person, or even view themselves as partaking in such activities (this has never been the role of such professionals). Discrimination between infective agents and persons, for instance microorganism compared with macro or human (physical) being, may perhaps guide this. The importance of moral and ethical conduct with respect to biology is a foundation of importance. Of note is that some major universities have argued for consideration of protections for computers similar to that of human rights. Three-dimensional printing of biology may also require ethical consideration and appropriate guidelines considered.

Quantum physics is the most rigorous and robust of the sciences yet to date there is minimal application to the medical and surgical professions. This should occur based on the improvement potential to the profession alone, however it can also be said that given infective agents including bacteria have now demonstrated the ability to perform voltage gated ion channel firing (communication) the field of neurology needs to update past such basic science and improve to the level of advanced science, represented by quantum physics as a starting point.. Examples as a commencing point may include: In neurology (and, ophthalmology) the updating of basic principles, for instance: (1) an understanding that the central beam theory may perhaps be better explained by way of scientific principles, in quantum physics, revolving around light acting in both wave and particle forms and, by application of the pinhole aperture, light may arguably as result hit the retina more predominantly in particle form, and subsequently in a more concentrated manner, thereby increasing visual acuity; (2) monocular abilities to judge depth (depth perception) may perhaps be better explained through interaction of diffraction wave patterns with accompanying neurological calculation of time and distance relationships based on such analysis, as opposed to historical explanations such as texture gradient, interposition, relative size etc. Interestingly, partial coherence interferometry (used in ophthalmology) utilizes such principles; (3) The analysis of chronology (for instance, with inflammation, trauma, and infection) as to which occurred first, taking into account relevant principles.

NB: Microorganisms may be also be utilizing complex communication methods, including that based on quantum physics, in addition to voltage gated ion channel activity based communications.

At present, there is demonstration of the following:
(1) Microorganisms in the CNS performing voltage gated ion channel communications, possibly demonstrating consciousness or at least a level of awareness.
(2) An Axis that appear potentially to have been formed (at least in part) by microorganisms from the intestine(s) through to the pituitary gland (gut-brain axis), and notably the pituitary gland is an area around which used to be termed historically as the seat of the soul, or mind.

Based on the above, it could be viewed that these two signs (indications) demonstrate the attempted invasion of the mind of the person by another entity, for instance that of the infective microorganisms. The implication of microorganisms in mental illness has been delineated previously by the current author (researcher) in reports listed below in the section titled *References*.

It is worth considering whether a level of total (or, near total) control could be gained by the microorganisms, causing mental illness at the level of psychosis or insanity. The above is worth further investigating.

SUMMARY AND CONCLUSION

In conclusion, this paper presents the new, or third, mode of action pathway in antimicrobial therapy represented by *site attachment inhibition therapeutics*. This is intended to be applicable to all infective agents including viruses and bacteria. Indications supporting the likely success of site attachment inhibition therapeutics:

With respect to viruses, support for the likely success of the new mode of action pathway: A) the known CCR5-Δ32 mutation achieves resistance (immunity) against HIV through negation of cellular attachment; B) other areas of medicine use analogous receptor antagonism (E.g. beta blocker therapy); C) advanced IT uses analogous site attachment inhibition to remove viruses. With respect to bacteria, support for the likely success of the new mode of action pathway: A) advanced IT uses analogous site attachment inhibition to remove IT infections; B) glycoproteins (or, glycoprotein receptors) represent key sites for attachment and, analogous to glycoprotein IIb/IIIa medications which inhibit (negate) platelet aggregation and thrombus formation, it seems reasonable to pursue antagonism or blockade of other glycoprotein receptors in order to prevent bacterial attachment to human cells (note: this is also relevant to viral infections); C) the human immune system coats infective agents in an attempt to negate cellular attachment, therefore this mode of action represented by site attachment inhibition makes scientific sense.

Attention must be directed toward correctly identifying the target receptors and appreciating the difference between association and causation. Looking at mutations noticed in the human population and connecting this to the innate resistance they possess to certain infections is not enough as this may simply represent association as

opposed to causation. Even the known CCR5-Δ32 mutation has not been completely confirmed as direct/ causative of the inhibition of attachment observed in research analyses.
The relevance to future cancer treatments is also discussed. In addition, further areas for research by the current author are delineated.

New generation immunization methods based on site attachment inhibition are discussed and have been detailed briefly by the current researcher in previous reports.
Ethics committee and community consideration remain important, especially when dealing with consciousness, awareness, and biological materials.
In conclusion, this manuscript presents the new, or third, mode of action pathway in antimicrobial therapy represented by *site attachment inhibition therapeutics*.

BIOGRAPHICAL NOTES

The author (researcher) of the current report, Dr Simon Raymond MPH, is a consultant (specializing in medical and scientific research) and an Alumnus of Melbourne University (Rank of Number 1 in Australia and Number 33 in the World). The above stated researcher has acted as a reviewer for the respected Medical Journal of Australia, has received invitations internationally to review from prestigious medical journals including JAMA (Journal of American Medical Association) Network, received award in recognition of his research by Royal Australasian College of Surgeons (PSC, 2006) and invited to conferences internationally as an official delegate and researcher, including that in USA and China. Dr Simon Raymond has acted as the principle researcher in the highest powered form of medical trial—Randomized Controlled Trial (RCT). The above stated researcher is also a member of the Golden Key International Society for honoured and outstanding academics and has been cited as a notable global leader.

REFERENCES

This research, and site attachment inhibition therapeutics broadly, has been accepted by and presented at a number of high profile conferences internationally in locations including USA, Europe, and UAE. Notably, at:

1. 6th International Conference on Immunology (USA; Chicago IL 870th Congress) and related presentations of the official International Immunology Conference Umbrella (recognized by key medical and surgical databases including Entrez PMD) in locations spanning Europe through UAE.

Publications by the current author from which this manuscript draws from include:

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