

Re: Ki67 protein and periodontitis.

Source: <http://sci.tech-archive.net/Archive/sci.med.dentistry/2005-03/3564.html>

From: Joel M. Eichen (joeleichen_at_yahoo.com)

Date: 03/22/05

Date: Tue, 22 Mar 2005 07:15:48 -0500

OK, maybe not so outrageous

Joel

**

1: Oral Dis. 1996 Sep;2(3):210-6. Related Articles, Links

In situ localization of cell synthesis and proliferation in periodontitis gingiva and tonsillar tissue.

Takahashi K, Lappin D, Kinane DF.

Department of Adult Dental Care, Glasgow Dental Hospital and School, Scotland, UK.

OBJECTIVE: Previous work indicates that large numbers of B and T cells accumulate in the periodontal soft tissues although we know little about cellular synthetic activity and proliferation in this site. The aim of this study was to examine lymphocytic cell synthetic activity and proliferation in periodontitis gingiva and compare this to a known site of leucocyte proliferation, namely the oropharyngeal tonsils.

MATERIALS AND METHODS: Messenger RNA (mRNA) and 28S ribosomal (28S rRNA) expressing cells in formalin-fixed/paraffin-embedded gingival and tonsillar tissue sections were detected by in situ hybridisation (ISH) using poly-deoxyribothymidine and 28S probes respectively. In addition S-phase proliferating and cycling cells were also detected by ISH with histone probes and by Ki-67 immunohistochemistry. Ten gingival biopsy samples were obtained from adult periodontitis patients and five tonsillar biopsies from tonsillectomy patients.

RESULTS: Both mRNA and 28S rRNA-expressing cells were detected in all the samples tested. Plasma cells showed the strongest signal for the two probes and slight to moderate staining could be seen in epithelium, fibroblasts and endothelial cells. In contrast, gingival lymphocytes were either weakly stained or were unstained for these probes of synthetic activity. In tonsils, most lymphocytes in germinal centres showed moderate staining and mantle zone cells were much more weakly stained. In gingival samples, histone mRNA-expressing and

cycling (Ki-67) cells were detected in 4/10, 10/10 cases respectively. These positive cells were mainly basal and suprabasal epithelial cells and a few mononuclear cells, whereas most germinal centre lymphocytes (B cells) were positive for this probe. The number of Ki67 positive cells was greater than histone mRNA bearing cells both in gingiva and tonsillar tissue. In contrast, mantle zone cells (mainly T cells) were sparsely stained by probes of cell proliferation. CONCLUSION: These results indicate that local proliferation of B cells does not occur in periodontitis gingiva in contrast with tonsillar tissue, although plasma cells showed strong synthetic activity in both tissues. T cells did not appear to proliferate greatly nor undergo active synthesis in either of these tissues. These findings substantiate previous hypotheses that specific leucocytes predominate in the gingival tissue through selective homing rather than by local proliferation.

PMID: 9081761 [PubMed – indexed for MEDLINE]

On Tue, 22 Mar 2005 07:12:47 -0500, Joel M. Eichen
<joeleichen@yahoo.com> wrote:

> *This is my second day with Ki67 but here goes anyway*

>

> *Why not a diagnostic test for Ki67 within periodontal tissues?*

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> *Joel*

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> *Joel*

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> *Dr. Jai Maharaj Jul 6 2004, 2:16 am show options*

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> *Newsgroups: soc.culture.indian, alt.fan.jai-maharaj, sci.med,*

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> *From: use...@mantra.com (Dr. Jai Maharaj) – Find messages by this*

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> *Date: Tue, 06 Jul 2004 09:16:31 GMT*

> *Local: Tues, Jul 6 2004 2:16 am*

> *Subject: HEART MUSCLE CELLS REGENERATE AFTER A HEART ATTACK*

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>
>EMBARGOED FOR RELEASE
>Wednesday, June 6, 2001
>5:00 p.m. EST Contact:
>NHLBI Communications Office (301) 496– 4236
>
>
>Doug Dollemore, NIA (301) 496– 1752
>
>
>Marjorie Roberts,
>New York Medical College
>(914) 594–4536
>
>
>Scientists Find that Heart Muscle Cells Regenerate After
>a Heart Attack
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>Challenging one of medicine's long–standing beliefs, a
>team of scientists funded by the National Heart, Lung,
>and Blood Institute (NHLBI) and the National Institute on
>Aging (NIA) <http://www.nih.gov/nia/> has found the
>strongest evidence to date that human heart muscle cells
>regenerate after a heart attack. In a paper published in
>the June 7 issue of the New England Journal of Medicine,
>scientists from New York Medical College in Valhalla, NY
>report their success in finding large scale replication
>of heart muscle cells in two regions of the heart, and in
>identifying several other key indicators of cell
>regeneration.
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>"It has long been assumed that when the heart is damaged
>– such as after a heart attack – heart muscle cells do
>not regenerate and the damage is permanent. This
>assumption has been challenged in recent years by
>evidence that heart muscle cells may in fact regenerate.
>Now, this latest research provides the most dramatic and

>clear-cut demonstration to date of heart cell
>regeneration after cardiac injury," says Claude Lenfant,
>M.D., director of the NHLBI, a component of the National
>Institutes of Health (NIH).
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>"With this landmark study, we have a new understanding of
>the heart that opens up the possibility of repairing
>heart muscle damage after a heart attack," he adds.
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>"This finding, if confirmed, may begin to clarify how
>hearts respond to the normal insults of aging through
>previously undetected repair mechanisms," says David
>Finkelstein, Ph.D., director of basic cardiovascular
>research at the NIA.
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>Piero Anversa, M.D., professor of medicine and director
>of the Cardiovascular Research Institute, and colleagues,
>studied myocytes (heart muscle cells) from the hearts of
>13 patients, 4 to 12 days after their heart attacks, and
>from the hearts of 10 patients who did not have
>cardiovascular disease. Samples were obtained from the
>border zone near the site of the heart attack and from a
>more distant site from the damaged tissue.
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>By viewing these areas of the heart with a high
>resolution confocal microscope, Anversa and colleagues
>were able to measure the expression of Ki67, a protein
>found in the nucleus of dividing heart muscle cells. Ki67
>is expressed during all phases of a cell's life cycle and
>is a strong indicator of cell division.
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>The scientists also obtained images of mitotic division
>and found other evidence of myocyte replication,
>including the formation of the "mitotic spindle," and
>"contractile ring," critical structural indicators of
>cell division.
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>Important evidence of myocardial repair was demonstrated
>by the mitotic index, a measurement of the degree of
>myocyte division. In comparison with normal hearts, the
>number of myocytes multiplying in diseased hearts was 70
>times higher in the border zone and 24 times higher in
>the remote myocardium.
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>The next challenge, according to Anversa, is to find the
>source of the dividing myocytes. "Are these cells a sub-
>population of known cells that retain the capacity to
>divide, or are they multiplying cells that originate from
>stem cells present in the heart?" he asks.

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>"There are preliminary indications that primitive cells
>like stem cells exist in the human heart. Stem cells may
>have the ability to develop into the various cardiac cell
>types and form new healthy functioning myocardium. If we
>can prove the existence of cardiac stem cells and make
>these cells migrate to the region of tissue damage, we
>could conceivably improve the repair of damaged heart
>muscle and reduce heart failure," says Anversa.

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>Research on animal models supports this possibility. In
>the April 4 issue of Nature, the Anversa team and a
>colleague at the NIH reported that adult stem cells
>isolated from mouse bone and injected into a damaged
>mouse heart became functioning heart muscle by developing
>into myocytes and coronary vessels. Moreover, the newly
>formed tissue partially restored the heart's ability to
>pump blood.

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>Although a cardiac stem cell has not yet been identified,
>scientists have identified a neural stem cell in the
>brain.

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>"Why not the heart?" asks Anversa.

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>To arrange an interview with an NHLBI scientist, contact
>the NHLBI Communications Office at (301) 496 – 4236. To
>interview Dr. Anversa, contact Marjorie Roberts, New York
>Medical College, at (914) 594 – 4536. To interview Dr.
>Finkelstein, contact the National Institute on Aging
>Office of Communications and Public Liaison at (301) 496
>– 1752.

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><http://www.nhlbi.nih.gov/new/p-ress/01-06-06.htm>

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>

>Jai Maharaj

><http://www.mantra.com/jai>

>Om Shanti

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>*Hindu Holocaust Museum*
><http://www.mantra.com/holocaust-t>
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>*Hindu life, principles, spirituality and philosophy*
><http://www.hindu.org>
><http://www.hindunet.org>
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>*The truth about Islam and Muslims*
><http://www.flex.com/~jai/satya-mevajayate>
>
>
>*The terrorist mission of Jesus stated in the Christian bible:*
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>
>*"Think not that I am come to send peace on earth:*
>*I came not so send peace, but a sword.*
>*"For I am come to set a man at variance against his*
>*father, and the daughter against her mother, and the*
>*daughter in law against her mother in law.*
>*"And a man's foes shall be they of his own*
>*household.*
>*– Matthew 10:34–36.*
>
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>*From: use...@mantra.com (Dr. Jai Maharaj) – Find messages by this*
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>*Date: Tue, 06 Jul 2004 18:51:55 GMT*

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