

1 radical has been known to in more the aging process and a lot of another
2 diseases. So the consequence of exposure of the radiation can be ready
3 (inaudible) on health. Next slide. Okay, five years ago you asked me the
4 question, when people live close to a cell tower or a transmission tower would
5 that cause any health effects. If you asked me the question five years ago, I
6 would say no, there would be no effect at all. But in the last five years there
7 have been quite a lot of research came out that shows that exposure to really
8 low intensity radiation at a level which is one to 200 feet from a normal cell tower
9 can cause biologic effect. Now I have listed I hope people can see this very
10 well, I have a list of paper and investigations into table, this table, the next slide.
11 Now the effect, many types of effects have been discovered in the last five to six
12 years on really do low intensity radiation. This includes churches, and cell
13 functions. There are two studies in schools, the children have problem learning
14 and now there are two other points I want to make. One is that the effect seems
15 to be cumulative, the longer you are exposed the more the effect will occur. And
16 another thing is that when we are exposed to a radiation from a transmission
17 tower the exposure is long term, it's a chronic exposure that means the person
18 who live close to the tower can be exposed to the radiation, 24 hours a day.
19 Now this has not been studied very well. But, if the effects are cumulative
20 eventually this long-term exposure can cause some kind of health effects.
21 Thank you very much.

22 HOLLOWAY: Thank you. Do you have any questions?

23 Thank you. Dr. Pardos?

1 death. It allows us to view blood vessels, corneal and endothelium cells in a
2 purely physiological state again without having to destroy the animal and it gives
3 us insight into how other tissues may possibly react to electromagnetic radiation
4 that are not as assessable, closed organs such as the brain, the heart other
5 viscera that are not assessable because we don't have a window to them.
6 Before I go on, because the medication used here is a glaucomatous medication
7 the prevalence of glaucoma in the general population is 1 in 5,000. The most
8 commonly used glaucomatous medication is Timolol, which is one of the
9 medications, one of the two medications that were used in the study.
10 Pilocarpine is also a widely used medication but Timolol Tinoptic is by far the
11 most commonly used anti glaucomatous medication. And in that population 1 in
12 5,000 individuals close to 1 in 5,000 individuals, an individual who has glaucoma
13 the first line of drug will be Timolol. In the controls which were those animals
14 that were not exposed to electromagnetic radiation or who just used the drops.
15 There is no leakage in the blood vessels. There was no change in the corneal
16 endothelium and I would like to demonstrate what that reflects. The top slide is
17 a florescence angiogram of the iris vessels and what we are seeing are actually
18 the blood vessels of the iris of the eye. The white is the florescence dye within
19 the lumen of the blood vessels and there is no extravagation no leakage of the
20 dye outside the blood vessels. Can you go up to that mosaic? This mosaic
21 which is not well represented on the projection is a mosaic of the cornea and
22 endothelium cells and one can see a uniform mosaic on that and that's typical
23 for a normal eye as was shown on the controls. If we can go back to the power

1 point. You are doing an excellent job by the way. When they examined the
2 animals that are exposed to the electromagnetic radiation but not given the
3 pretreatment with Timolol they found that at levels of 10 millowatts per
4 centimeter square or higher the blood vessels started to leak and at 5 millowatts
5 or greater there were changes in the corneal endothelium. However, this is
6 where the rub is. Where they pretreated the animals the Rhesus monkeys with
7 one drop of Timoptic or one drop of Pilocarpine before and after that treatment
8 they found that the level that it took for the blood vessels to leak decreased from
9 10 milliwatts to anywhere from 0.2 to 1 milliwatt per centimeter square and found
10 that the corneal and endothelium damage that occurred at 5 millowatts in
11 monkeys in those that were pretreated their was twice as much damage in the
12 corneal endothelium. Can we show the next photo? And here we see
13 significant top slide, significant extravagation or leakage of blood constituents
14 from the vasculature and this is in animals that were exposed to 0.2 to 1
15 millowatt per centimeter square, as compared to those animals that were
16 exposed to 10 millowatts and these are the individuals the animals that were
17 treated with Timoptic. If we go up one, in the previous mosaic that we showed of
18 the corneal endothelium that was a uniform mosaic here we significant drop out
19 dying, destruction of the endothelium cells, and again this is using not a esoteric
20 medication but a drop that we could expect every glaucoma patient to use, and
21 again the population of that prevalence is one in 5,000. Next can I have the
22 power point back again. One of the conclusions that the study came to there
23 was no evidence of leakage in Rhesus monkeys that were not exposed to a

1 electromagnetic radiation or that just used the drops. In animals that are
2 exposed to electromagnetic radiation at the level of ten millowatts there was
3 leakage of the blood vessels. But treating with a commonly used anti-
4 glaucomatous medication again Timoptic and Pilocarpine it decreased the
5 threshold before leakage was seen before ten millowatts to 0.2 to one millowatt
6 or decreased the threshold by a factor of 50, a factor of 50. Why is this
7 relevant? Why is our investigation into monkeys, there aren't many monkeys
8 living on Lookout Mountain and surrounding areas. It is relevant because the
9 current FCC regulations allow for a higher frequency greater human power
10 exposure. That is to say that the gigahertz frequencies which would be allowed
11 they would allow at least up to one millowatt per centimeter square of exposure
12 to the population. This study shows that even at the 0.2 or 200 microwatt per
13 centimeter square there are threshold levels achieved which allow permeability
14 leakage in the vasculature of the monkey's iris. Excuse me, the proposed
15 towers would be allowed to emit electromagnetic radiation at the 0.2 millowatt
16 per centimeter square range. At higher frequencies, which again would be
17 allowed the community power exposure is allowed to increase and the damage
18 from increased power exposure to the vasculature and to the corneal
19 endothelium of the monkey is demonstrated, is demonstrated by this study. The
20 effects on EMR on Rhesus Monkeys can be assumed to parallel those of
21 humans. They are our closest genetic relatives. The test subjects were only
22 exposed, meaning the monkeys were only exposed to a total of 12 hours of
23 electromagnetic radiation. Residents that surround the towers would be

1 exposed to continuous electromagnetic radiation. The assumption being that
2 the continuous exposure would be cumulative and we have demonstrated
3 damage in only 12 hours of exposure in Rhesus Monkeys and again they are
4 our closest genetic relatives we are not talking about rabbits or chipmunks. The
5 damage to the Rhesus Monkey's eyes is a mirror to what may be happening to
6 other less accessibly observable organs in the body. Again the internal viscera,
7 the brain. The ubiquitous use of these anti-glaucomatus medication Timolol and
8 Pilocarpine further jeopardize that portion of the population, 1 in 5,000 thousand
9 to the effects of electromagnetic radiation. While the extrapolation between the
10 effects seen in Rhesus Monkeys and humans is not proven by this paper
11 enough evidence is presented regarding the harmful effects of electromagnetic
12 radiation to our nearest genetic relative that further studies in humans is
13 certainly warranted. The residents surrounding the proposed towers should not
14 be allowed to serve as the test subjects for such an experiment. Prudence
15 would suggest that further studies are needed before the public is exposed to
16 the potential harmful effects of EMR at the level the proposed towers would be
17 permitted to emit and have already been proven to be harmful to our next
18 nearest genetic relative the monkeys. Thank you very much.

19 HOLLOWAY: Doctor, I have a question for you? How are
20 these monkeys radiated?

21 PARDOS: They used a 2.45 gigahertz which is higher
22 than usual but within the prescribed frequency that the tower can be and there

1 was meters that detected the powers the amount of power of the energy that
2 was radiated to the monkeys eyes.

3 HOLLOWAY: Were they in a confined area?

4 PARDOS: They were in a confined area, yes. And they
5 were divided into 4 or 5 groups, 0.2, 1, 10, and 15 millowatts per centimeter
6 square.

7 HOLLOWAY: So, they were in a confined area and given
8 large doses of radiation.

9 PARDOS: Well, they were in a confined area given, I
10 wouldn't say large doses of radiation, but given doses of radiation, but more to
11 the point even if there was a background radiation, the controls, which there
12 were two sets of controls, those sets of monkeys that were given sham
13 exposure were sitting in the same areas, in the same environment, but not
14 radiated. And a similar group that was sitting in the same environment, same
15 area and given the drops and in those controls there was no change in the
16 vasculature of the cornea endothelium of the animals.

17 HOLLOWAY: Thank you do you have any questions?

18 SHEEHAN: Where was the study done? Where were the
19 monkeys?

20 PARDOS: I think it was in Boston. It should be in your
21 portfolios.

22 HOLLOWAY: Thank you. is it Dr. Rief?

23 REIF: It's Reif.