TABLE 2. Peak pressure and displacement in spherical head models irradiated with 10 μsec rectangular microwave pulses at a peak absorption rate of 1 W/g.

Sphere Radius (cm)	Microwave Frequency (MHz)	Species	Pressure (dyne/cm^2)	Displacement (10^{-11} cm)	Incident Power (mW/cm^2)
2	2450	guinea pig	4.08	2.16	445
3	2450	cat	3.69	1.51	589
5	918	human infant	9.61	9.34	1282
7	918	human adult	6.82	3.97	2183

density and the frequency differ according to the species involved. Although the pulse width and peak absorption rate are the same in each case, the pressure and displacement differ somewhat. These data will enable experimenters to estimate the peak pressure that is expected for a given power density of incident energy.

4. CONCLUSIONS

The thermoelastic model for microwave-induced auditory sensations was used to calculate acoustic-wave characteristics in human beings and common laboratory animals that are exposed to pulsed microwaves. Quantitative estimates of the frequency and amplitude of induced pressure and displacement have been obtained for guinea pigs, cats, infants and adult human beings under irradiation by 2450- and 918-MHz microwaves.

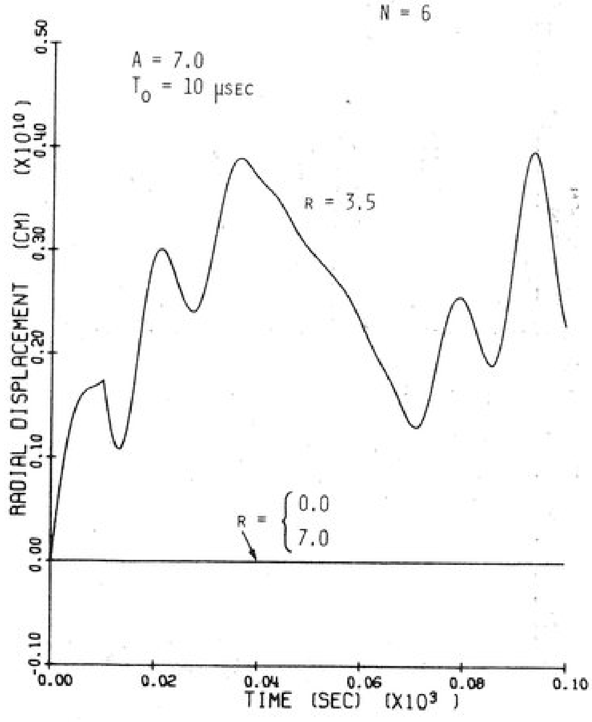

Fig. 9. Displacement produced in a spherical head of 7-cm radius.

The tabulated data and graphical presentations will be useful to investigators who are interested in pursuing threshold studies for exposure to microwave radiation. They may also serve as a guide to the design of laboratory experiments that are aimed at resolving the exact mechanism of interaction in terms of the signal levels and frequency responses of test instruments.

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