NASA-S-66-11896

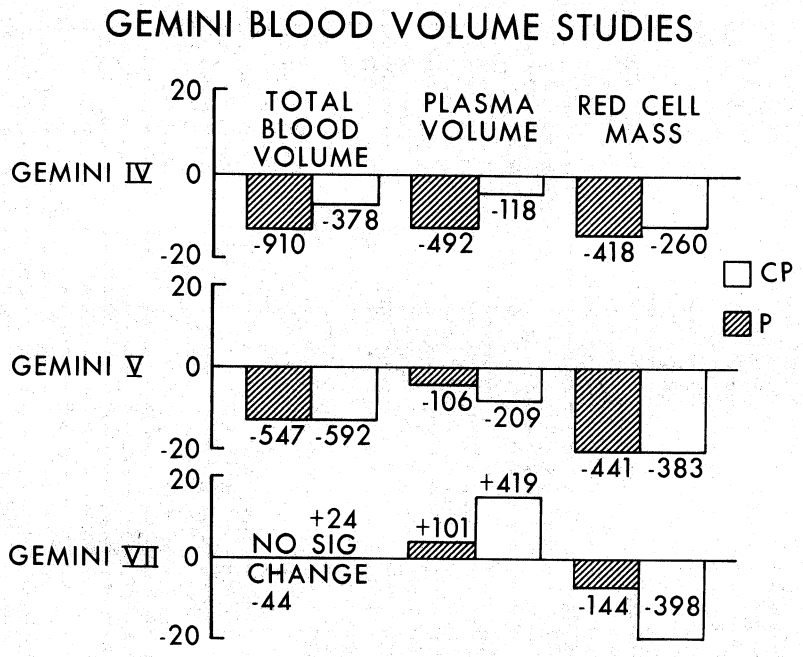

FIGURE 15

duration increases. We kept the same blood volume, no change in blood volume, by increasing the liquid portion of the blood almost an equal amount of the amount of red cell mass that we lost.

The cause of this phenomenon is still under investigation. We are looking at it in chamber studies. We need to look at it, of course, more in flight, and some very interesting things are coming out of this that will apply to medicine in general, as to what really happens to a red blood cell in this sort of environment. Apparently there is some involvement from both the weightlessness environment or factors in the weightlessness environment as well as, most important, our 100 percent oxygen invironment.

I would like to just hastily jump over the biochemical findings because I don't think the details here are important, and we are short on time.

We have looked at a number of profiles, and we looked at the profile that tells us about water and the electrolyte balance, and in doing this we looked at sodium (fig. 16), and we find a decrease in sodium and a decrease in potassium (fig. 17) during the flight time itself, and this goes along with some hormonal changes, which affect your ability to retain sodium.

We also have looked at a profile which tells us about stress, and we see, here, that we get a very large drop during flight of these 17 hydroxysteroids and then a marked increase here directly after flight, and then it tails off. Whether this is related to the reentry, we are not sure.