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Alison Wollitzer, PhD
Santa Barbara Cottage Hospital
Research Fund Committee

Re: Apheresis Charcoal Filtration Project

Dear Dr. Alison:

I writing your committe in support of a research project which was authored and is under the direction of Ramon Duarte, R.N. in our department.

As you may know there are a number of highly protein-bound drugs, e.g. theophylline, which when they occur in toxic levels, can only be removed by hemodialysis with perfusion over a charcoal filter. This is an effective but lengthy procedure which results in significant hematologic toxicity with fragmentation of red cells and considerable loss-consumption of platelets.

Mr. Duarte has proposed that this procedure could be done in a fashion similar that used in apheresis by immunoabsorption utilizing the ProSORBA column. In this procedure the whole blood is first separated into components (cells and plasma). The cells are returned to the patient. The plasma is processed through the immunoabsorption column which absorbs antibodies and circulating immune complexes prior to be returned to the patient.

In Mr. Duarte's model the Cobe Spectra cell separator would be utilized, the cells and plasma would be separated by centrifugation and the cells returned to the patient. The plasma fraction would be diverted through the charcoal cylinder, allowing the drug in question to be removed and the "processed plasma" would be returned to the patient. We hope to show that this procedure will allow efficient, rapid removal of the drug with essentially no hematologic toxicity since the cells will not pass through the charcoal cylinder.

Prior to testing this procedure in vivo, considerable investigation must be done with an in vitro model. It is essential to document pre and post column levels of