

CLARK RESEARCH AND DEVELOPMENT, INC.

NUMBER 13 PARK LANE

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June 29, 1993

Ray Duarte, RN, CHN
3770 Torino Drive
Santa Barbara, California 93105

Dear Mr. Duarte:

It was a pleasure meeting you during the ASAIO convention in New Orleans.

Clark Research and Development, Inc. is interested in your work with plasma perfusion because there may be medical situations which would benefit particularly from the adsorption of toxins directly from plasma, and the unique coating technology employed in the Clark Biocompatible Hemoperfusion cartridge is absolutely essential for efficient plasma detoxification.

The bulk of membrane and coating research through the years has been concerned with the development of blood or plasma compatible interfaces that will prevent the protein layering which impedes permeability, such as occurs with non-biocompatible materials. You indicated that your own research experience with dialyzer membranes made you duly appreciative of the significant extent to which protein-layering can reduce detoxification efficiency.

The results with plasma perfusion using the Clark Biocompatible Hemoperfusion cartridge which you presented in New Orleans clearly demonstrated that our heparin-hydrogel coating prevents protein-layering. The fact that both your post-perfusion albumin and fibrinogen concentrations differed from the pre-treatment concentrations by exactly the dilution factor introduced by the amount of saline you added during the procedure is inarguable evidence for the protein-compatibility of the Clark coating.

Your experience with particulates is also interesting in several regards. While you did capture some particulates in one of your two tests, that amount of carbon, if it were to have entered a patient, would, of course, pose no threat to patient health; nevertheless, we concur with you in the belief that it is preferable to prevent even insignificant quantities of particulates from entering any patient, whether the particulates are generated as a result of inadequate pre-rinsing of the