

Workshop on Vasculopathy in Sickle Cell Disease

Natcher Conference Center, Bethesda, Maryland

AUGUST 27, 2008

1:00 PM - 1:05 PM **Overview**
Gregory J. Kato, MD

1:05 PM - 1:10 PM **Welcome**
Henrietta D. Hyatt-Knorr, MA, Office of Rare Diseases

SESSION

1

DISRUPTED NITRIC OXIDE METABOLISM AND OXIDATIVE STRESS

Chairs: Constance T. Noguchi, PhD and Jeffery L. Miller, MD

1:10 PM - 1:40 PM **The Endothelial Biology of Sickle Cell Disease: Inflammatory State and Chronic Vasculopathy**
Robert P. Hebbel, MD

1:40 PM - 2:10 PM **Nitric oxide scavenging by cell-free plasma hemoglobin**
Mark T. Gladwin, MD

2:10 PM - 2:40 PM **Catalytic nitric oxide scavenging by oxidases and oxygenases**
Bruce Freeman, PhD

2:40 PM - 3:00 PM **BREAK**

SESSION

2

VASCULAR DYSFUNCTION AND CELL ADHESION

Chairs: Robert P. Hebbel, MD and Marie J. Stuart, MD

3:00 PM - 3:30 PM **Nitric oxide resistance in the sickle cell mouse**
Dhananjay K. Kaul, PhD

3:30 PM - 4:00 PM **Mediators of cell adhesion in sickle cell disease**
Paul S. Frenette, MD

4:00 PM - 4:30 PM **Endothelial dysfunction in the sickle cell mouse**
Cheryl A. Hillery, MD

4:30 PM - 5:00 PM **Glutathione dysregulation in sickle cell disease**
Claudia R. Morris, MD

5:00 PM - 6:30 PM **Poster Session (Attended reception)**

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SESSION 3

HEMOSTATIC ACTIVATION AND GENOMICS OF VASCULOPATHY

Chairs: James G. Taylor, VI, MD and Mary E. Fabry, PhD

8:00 AM - 8:30 AM **Hemostatic activation in sickle cell disease**
Kenneth I. Ataga, MD

OTHER VASCULOPATHIES

8:30 AM - 9:00 AM **Hemolytic rate and risk of stroke in children with sickle cell disease**
Françoise Bernaudin, MD

9:00 AM - 9:30 AM **Role of nitric oxide availability and priapism in sickle cell disease**
Hunter C. Champion, MD, PhD

GENOMICS OF VASCULAR COMPLICATIONS

9:30 AM - 10:00 AM **Genomic markers of sickle cell priapism and leg ulcers**
Martin H. Steinberg, MD

10:00 AM - 10:30 AM **Genetics of pulmonary hypertension and vasculopathy in sickle cell disease**
Marilyn J. Telen, MD

10:30 AM - 10:50 AM **BREAK**

SESSION 4

TRANSLATIONAL THERAPEUTICS

Chairs: John Fitzgerald Tisdale, MD and Lewis L. Hsu, MD, PhD

10:50 AM - 11:20 AM **Vascular targets for small molecule therapeutics**
Gregory J. Kato, MD

11:20 AM - 11:50 AM **Gene replacement therapy in induced pluripotent stem (iPS) cells: treatment for sickle cell disease**
Tim M. Townes, PhD

11:50 AM - 1:20 PM **Poster Session and lunch**

SESSION 5

ATHEROSCLEROSIS: PARALLELS WITH SICKLE VASCULOPATHY?

Chairs: Gregory J. Kato, MD and Gregory M. Vercellotti, MD

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- 1:20 PM - 1:50 PM **The role of hypertriglyceridemia in atherosclerosis**
Anh Le, PhD
- 1:50 PM - 2:20 PM **Apolipoproteins in sickle cell vasculopathy**
Kirkwood A. Pritchard, Jr., PhD
- 2:20 PM - 2:50 PM **New Directions in Understanding the Genetic and Biochemical Signatures of Atherosclerotic Cardiovascular Disease in the NHLBI's Framingham Heart Study**
Daniel Levy, MD
- 2:50 PM - 3:20 PM **NOS uncoupling and Cardiovascular Disease**
David A. Kass, MD
- 3:20 PM - 3:40 PM **Closing Remarks**
- 3:40 PM - 4:00 PM **BREAK**
- 4:00 PM - 6:00 PM **Topics for Future Research**