BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Sujit S. Sheth, M.D.	Professor of Clinical Pediatrics
eRA COMMONS USER NAME shethsu	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
University of Bombay, Bombay, India	M.B.B.S	02/88	Medicine and Surgery
College of Physicians & Surgeons, Bombay, India	D.C.H	04/90	Child Health
University of Bombay, Bombay, India	M.D.	02/91	Pediatrics
Mailman School of Public Health, Columbia University	M.S	06/02	Biostatistics

A. Personal Statement

My ideal professional life has always been one with a balance of clinical research, patient care and teaching, though the relative proportions of each keep changing. I hope to continue to use my formal training as well as experience in patient oriented research, to specifically focus on disorders of iron metabolism, in particular transfusional iron overload in patients with thalassemia. Having taken complete charge of the Thalassemia Center that has been part of the Division for over 30+ years, I plan to continue my studies related to iron overload with this orphan disease patient population in collaboration with my colleagues in Medicine and transfusion medicine at Cornell and Columbia, as well with the national Thalassemia Network. The care of patients with hematologic disorders, primarily transfusion related conditions, has long been my primary clinical interest, and I strive to provide these patients with up-to-date comprehensive care. I continue to keep myself informed of progress in the literature and participate in education for medical students, residents and post-doctoral fellows, an activity that I feel passionate about and have been recognized for.

1. Sheth S. Strategies for managing transfusional iron overload: conventional treatments and novel strategies. Curr Opin Hematol. 2019 May;26(3):139-144.
2. Sheth S, Allen CJ, Farrell DE, Tripp JH, Jafari R, Wang Y, Brittenham GM. Measurement of the liver iron concentration in transfusional iron overload by MRI R2* and by high-transition-temperature superconducting magnetic susceptometry. Clinical Imaging. 2019 55: 65-70
3. Rapido F, Brittenham GM, Bandyopadhyay S, La Carpia F, L'Acqua C, McMahon DJ, Rebbaa A, Wojczyk BS, Netterwald J, Wang H, Schwartz J, Eisenberger A, Soffing M, Yeh R, Divgi C, Ginzburg YZ, Shaz BH, Sheth S, Francis RO, Spitalnik SL, Hod EA. Prolonged red cell storage before transfusion increases extravascular hemolysis. J Clin Invest. 2017;127(1):375-382
4. Sheth S, Licursi M, Bhatia M. Sickle Cell Disease: Time for a closer look at treatment options? Br J Haematol. 2013;162(4):455-64.

B. Positions and Honors

Positions and Employment

1987-88 Rotating Internship, Seth G.S. Medical College, Bombay, India.
1988-89 House Physician in Pediatrics, Seth G.S. Medical College, Bombay, India.
1989-91 Registrar in Pediatrics, Seth G.S. Medical College, Bombay, India.
1992-95 Post Doctoral Fellow, Pediatric Hematology/Oncology, Columbia University College of Physicians and Surgeons, New York.
1995-96 Resident in Pediatrics, Columbia University College of Physicians and Surgeons, New York
1996-04 Assistant Professor of Pediatrics, Division of Hematology, Columbia University College of Physicians and Surgeons, New York
2004-11 Associate Clinical Professor of Pediatrics, Clinical Director, Pediatric Hematology, Columbia University College of Physicians and Surgeons, New York
2011-12 Associate Professor of Clinical Pediatrics, Chief, Division of Pediatric Hematology and Oncology, Weill Cornell Medical College, New York.

2012- Professor of Clinical Pediatrics, Chief, Division of Pediatric Hematology and Oncology, Weill Cornell Medical College, New York.

Honors

1993-95 The Metropolitan Fund Fellowship, Columbia University
1999, 2009 Department of Pediatrics Excellence in Resident Teaching award
2014 DeWitt Clinton Mason Award for Community Service
2015 Harold Weill Professorship at Weill Cornell Medical College

Other Experience and Professional Memberships

Ad Hoc Reviewer for FDA Orphan Drug Program
Member American Society of Hematology

C. Contribution to Science

While I consider my contributions to clinical care and education to be significant, I have had ongoing activity in the research arena throughout my career. This has been patient-oriented clinical research, primarily focused in the area of hematologic disorders requiring regular transfusions.

1. Patients with thalassemia major become red cell transfusion dependent beginning in infancy. Similarly, a proportion of patients with sickle cell disease may require regular transfusions to prevent complications such as stroke. While these transfusions ameliorate symptoms and may prevent complications, there is significant potential for morbidity. With the safety of the blood supply having improved so greatly, iron overload and its organ toxicity is the most significant complication. My primary research interest has been to facilitate the improved monitoring and treatment of iron overload. I have worked on developing/enhancing non-invasive magnetic techniques for measuring tissue iron in order to better tailor chelation for individual patients, including methods using magnetic resonance and magnetic susceptometry. I am also currently involved in clinical trials of chelators, both novel and current, to improve iron overload related outcomes in regularly transfused patients.
   a. Sheth S, Allen CJ, Farrell DE, Tripp JH, Jafari R, Wang Y, Brittenham GM. Measurement of the liver iron concentration in transfusional iron overload by MRI R2* and by high-transition-temperature superconducting magnetic susceptometry. Clinical Imaging. 2019 55: 65-70
   b. Jafari R, Sheth S, Spincemaille P, Nguyen TD, Prince MR, Wen Y, Guo Y, Deh K, Liu Z, Margolis D, Brittenham GM, Kierans AS, Wang Y. Rapid automated liver quantitative susceptibility mapping. J Magn Reson Imaging. 2019
   c. Tang H, Jensen JH, Sammet CL, Sheth S, Swaminathan SV, Hultman K, Kim D, Wu EX, Brown TR, Brittenham GM (2014). MR characterization of hepatic storage iron in transfusional iron overload. Journal of Magnetic Resonance Imaging, 39(2):307-16.
   d. Sheth S (2014). Iron chelation: an update. Current Opinion Hematology, 21(3):179-85.

2. Related to red cell transfusions, I have been involved in studying other issues, which may have an impact on practice and patient outcomes. Minimizing transfusions could reduce risk associated with transfusions as well as reduce the iron burden in patients who with thalassemia, sickle cell anemia and other transfusion dependent anemias. The impact of the storage age of red cells has generated much interest, and our work so far has studied the effects of prolonged storage in the animal model and healthy human volunteers. We are in the process of studying these effects in patients with transfusion dependent anemias and those who are critically ill. Another cause for increased transfusion requirement in the former patient group has been the development of allo-antibodies and the reduced life span of transfused cells. Our studies investigating the immune response in such patients have also been informative on the pathophysiologic mechanisms which may be involved.
   a. Hod EA, Zhang N, Sokol SA, Wojczyk BS, Francis RO, Ansaldi D, Francis KP, Della-Latta P, Whittier S, Sheth S, Hendrickson JE, Zimring JC, Brittenham GM, Spitalnik SL (2010). Transfusion of red blood cells after prolonged storage produces harmful effects that are mediated by iron and inflammation. Blood, 115: 4284-4292.
   b. Hod E, Brittenham GM, Billote GB, Francis RO, Ginzburg YZ, Hendrickson JE, Jhang J, Schwartz J, Sharma S, Sheth S, Sireci AN, Stephens HL, Stotler BA, Wojczyk BS, Zimring JC, Spitalnik SL (2011).

Transfusion of human volunteers with older, stored red blood cells produces extravascular hemolysis and circulating non-transferrin-bound iron. Blood, 118(25):6675-82.

c. Rapido F, Brittenham GM, Bandyopadhyay S, La Carpia F, L'Acqua C, McMahon DJ, Rebbaa A, Wojczyk BS, Netterwald J, Wang H, Schwartz J, Eisenberger A, Soffing M, Yeh R, Divgi C, Ginzburg YZ, Shaz BH, Sheth S, Francis RO, Spitalnik SL, Hod EA (2017). Prolonged red cell storage before transfusion increases extravascular hemolysis. J Clin Invest. 127(1):375-82
d. Goel R, Patel EU, Cushing MM, Frank SM, Ness PM, Takemoto CM, Vasovic LV, Sheth S, Nellis ME, Shaz B, Tobian AAR (2018). Association of Perioperative Red Blood Cell Transfusions With Venous Thromboembolism in a North American Registry. JAMA Surg,153(9):826-833

D. Research Support

ACTIVE

HRSA U1 AMC28551 (PI: Sheth) 6/01/2015-5/31/2021
Project title: The New York Comprehensive Thalassemia Center: Expanded Regional Comprehensive Care Network.
The purpose of this project is to identify all patients with thalassemia who live in our defined Region and include them in our New York Comprehensive Thalassemia Center (NYCTC), thereby facilitating access to comprehensive care, including transfusions and chelation, monitoring, screening, and ensuring specialty care for complications as well as specific primary care.
Role: PI

NIDDK R01 DK116126 (PIs: Brittenham, Sheth and Wang) 2/01/2019-1/31/2024
Project title: QSM to Guide Iron Chelating Therapy in Transfusional Iron Overload
The overall objective of this research is to improve the safety of iron-chelating therapy (ICT) in patients with transfusional iron overload by developing accurate non-invasive measurement of the liver iron concentration (LIC), the best measure of the body iron burden in all forms of systemic iron overload.
Role: Co-PI

CDC NU58DD000001-01-00 (PI: Sheth) 9/30/2019-9/29/2024
Project title: The New York Comprehensive Thalassemia Center: Expanded Network.
The purpose of this project is expanded outreach to identify thalassemia patients in the region, utilizing novel strategies and existing methods, create and disseminate toolkits and guidelines in cooperation with existing partners, and enhance the focus on provider and patient centered education for complications of thalassemia and the required monitoring to prevent them.
Role: PI

COMPLETED (last 3 years)

CTSC Pilot Award (PI: Sheth) 06/01/15 – 05/31/17
Clinical and Translational Science Center
Project Title: Life Course Study of Thalassemia
The development of a multicenter CTSC Hub for the life course study of thalassemia will provide the organizational framework for ongoing opportunities to study interventions and identify better treatment strategies in this population. This life course study is designed to test the hypothesis that hemochromatosis in beta thalassemia can be prevented or retarded by the administration of iron chelation therapies.
Role: PI