

Vascular Embolization in the Non-Traumatic Patient

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Objectives

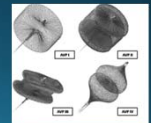
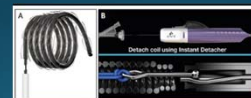
- Discuss vascular embolization fundamental principles
- Discuss commonly used embolic agents
- Discuss the application of vascular embolization outside the setting of trauma
- Case based discussion
- Discuss the future of embolotherapy

Vascular Embolization Principles

- Transcatheter vascular embolization first performed in 1970 by Dr. Dotter's group at OHSU.
- The goal of vascular embolization is to occlude a blood vessel either permanently or temporarily for therapeutic reasons (direct or indirect).
- Embolization is typically performed to a combination of angiographic and clinical end points.

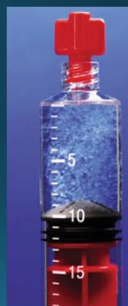
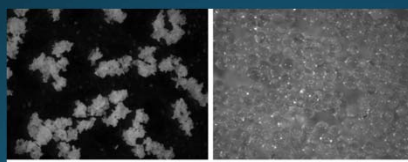
Embolic Agents

- Metallic coils/Vascular plugs
 - Endovascular equivalent of surgical ligation, a permanent embolic.
 - Available in a variety of sizes, delivery methods, coatings.
 - Acts as both a mechanical occlusion agent as well as a nidus for thrombus formation.



Embolic Agents

- Particles
 - Available in a variety of sizes, shapes, and material
 - Sizes are calibrated to vascular embolization target
 - Therapeutic medications can be annealed to the particles

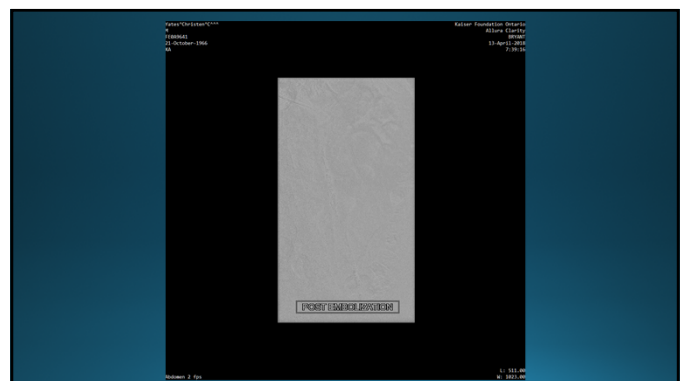
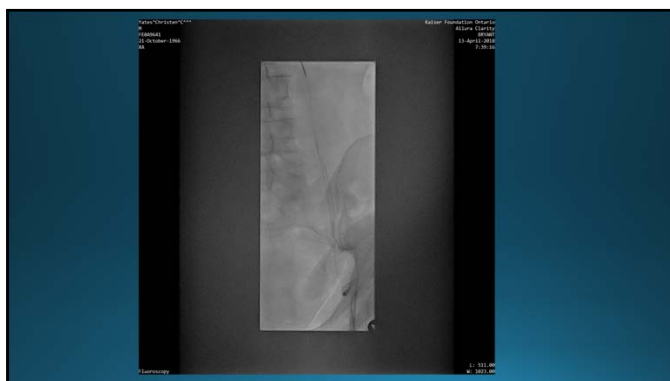
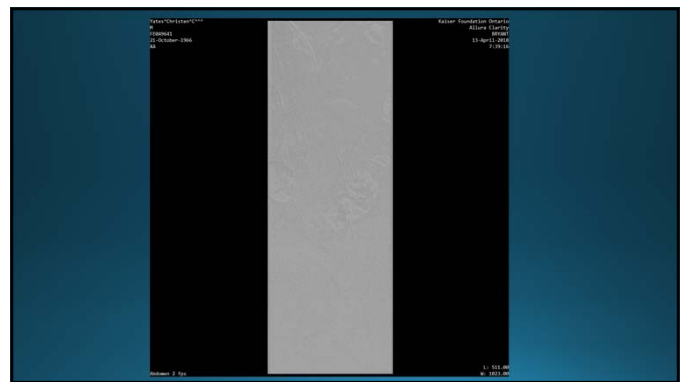
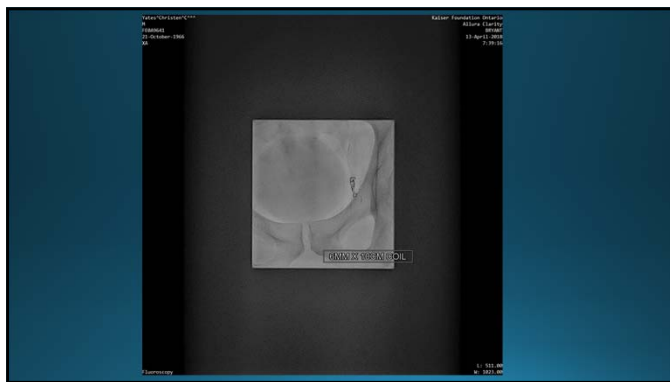


Embolic Agents

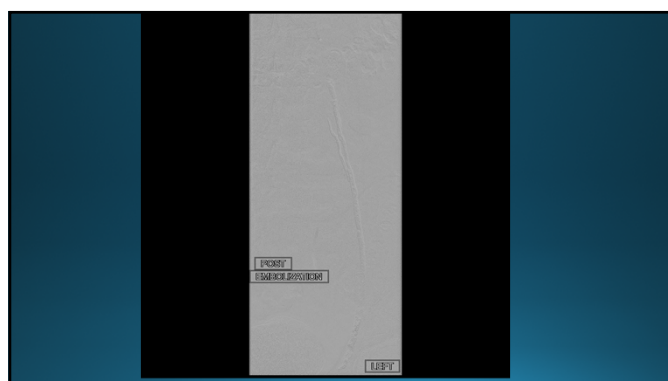
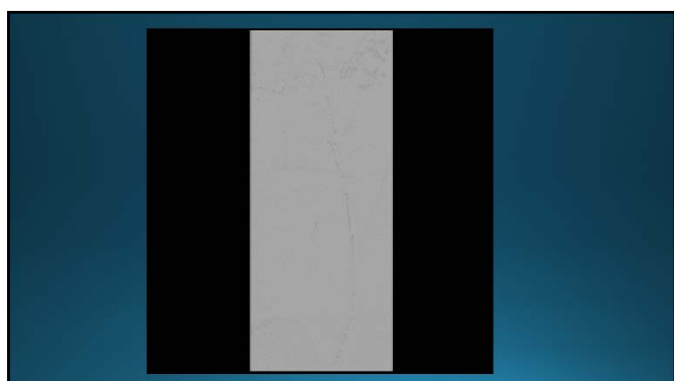
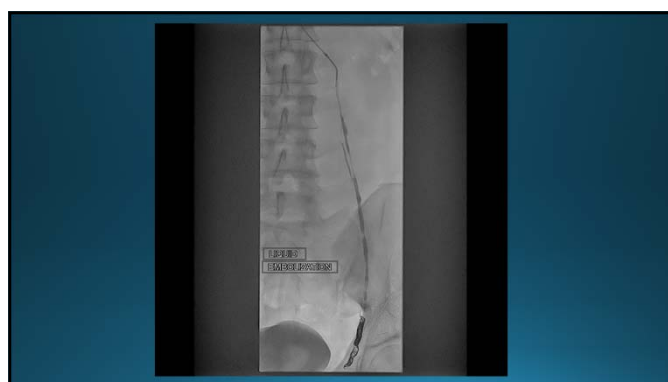
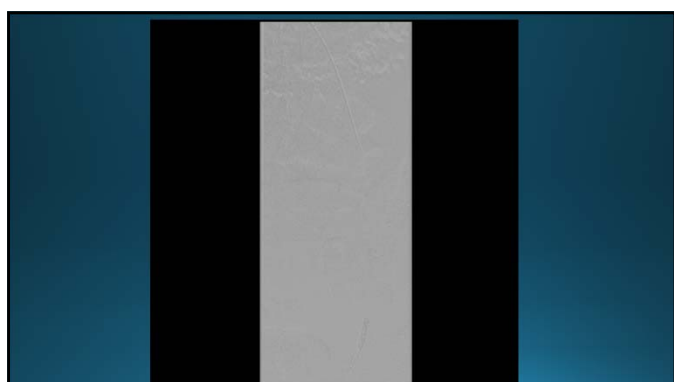
- Liquid Embolics
 - Flow directed embolic agents which permit rapid, complete embolization
 - Ethiodized oil
 - N-BCA "Glue"
 - Ethylene vinyl alcohol copolymer
 - Sclerosants
 - Sodium tetradecyl sulfate "STS"



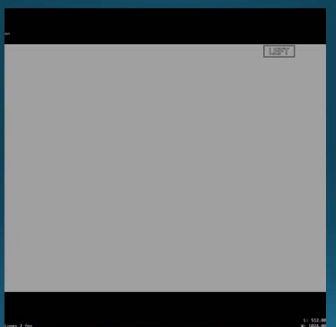
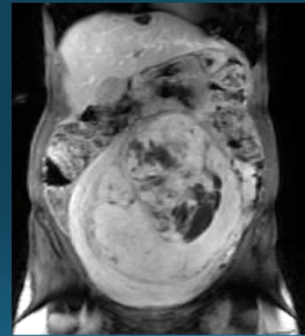
- 51 year old male with left scrotal ache worst at the end of the day
- Scrotal ultrasound shows a left sided varicocele.

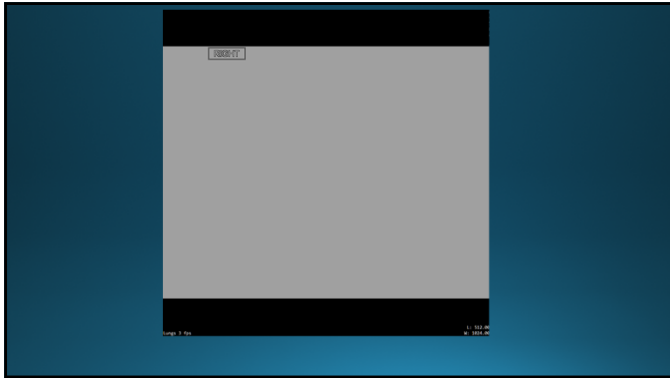


- 32 year old male with left scrotal ache worst at the end of the day
- Scrotal ultrasound shows a left sided varicocele.

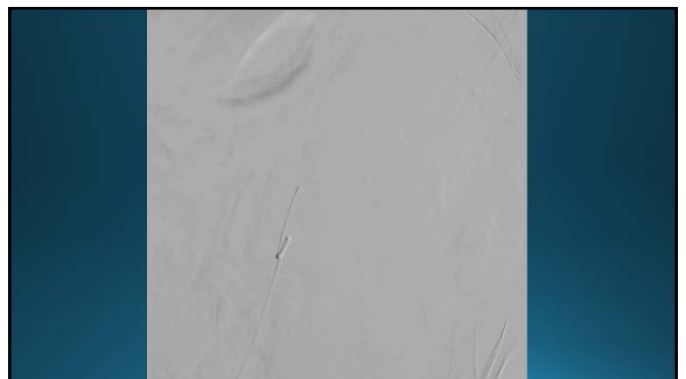
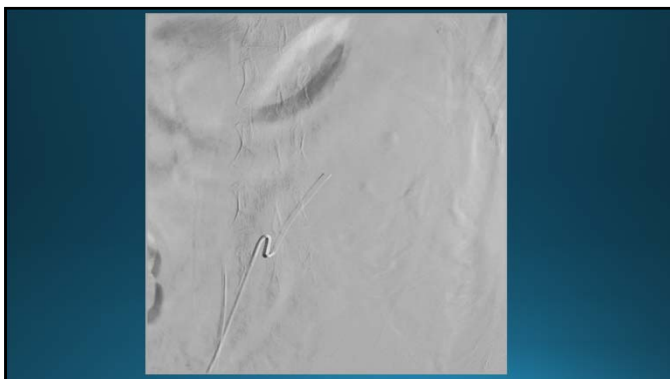
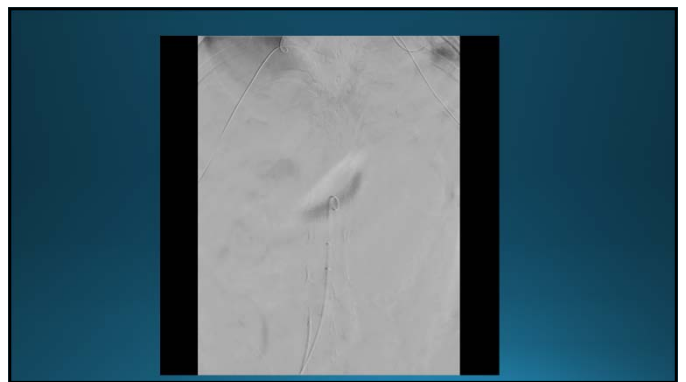


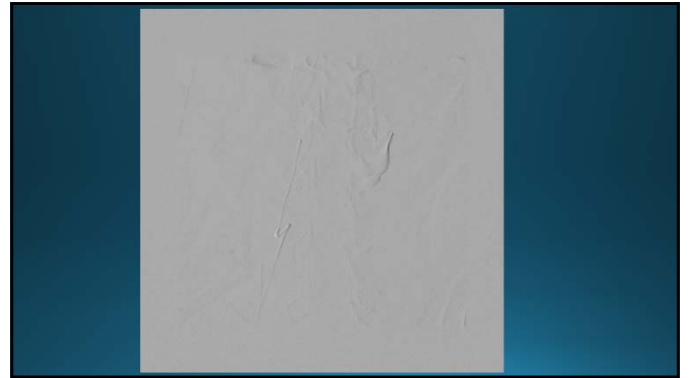
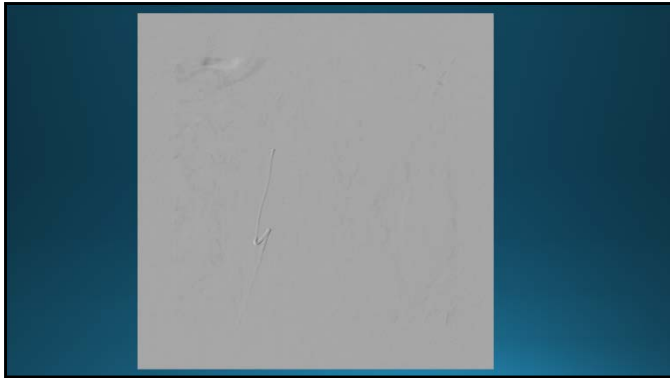
- 48 year old G2P2A0 female with large uterine fibroids causing bulk symptoms
 - She declines hysterectomy



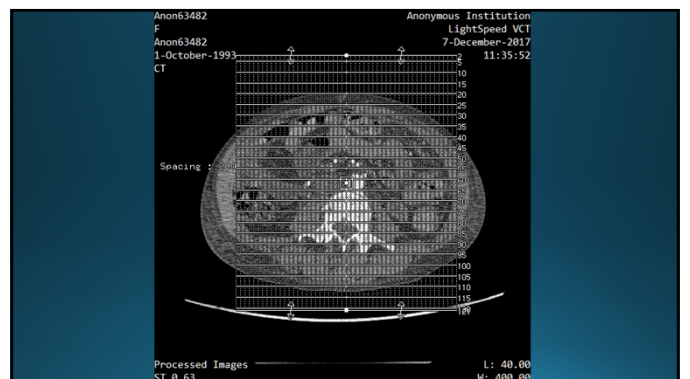


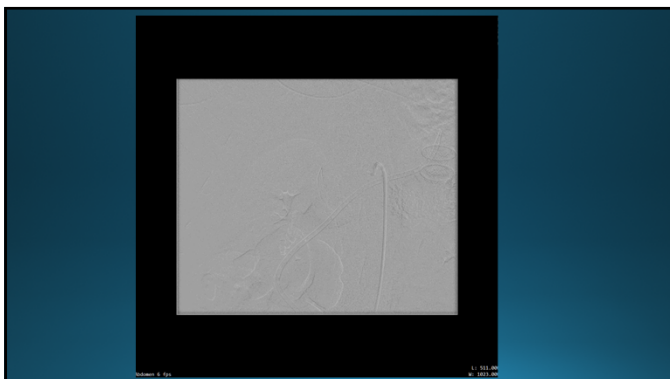
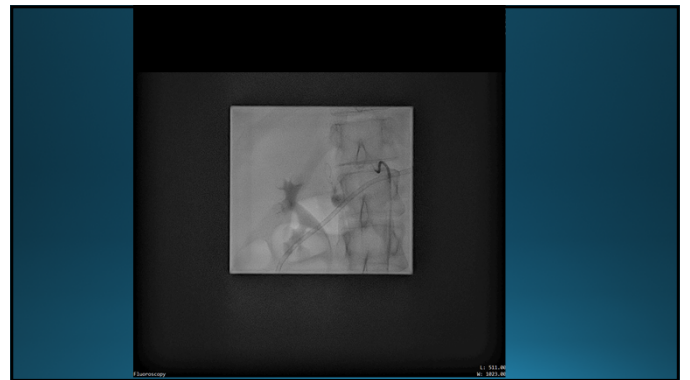
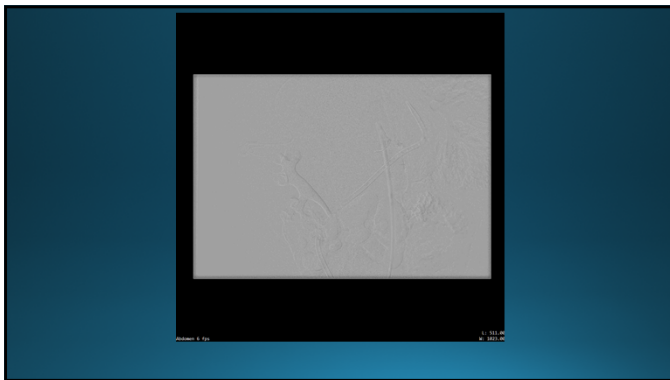
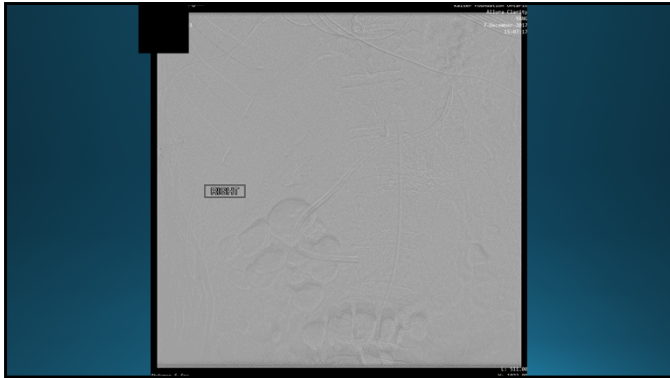
- 55 year old female with refractory left renal hemorrhage following CT guided renal cortical biopsy.





- 24 year old female with pancreatitis and refractory UGI hemorrhage.





Current Embolotherapy Horizons

Medium- and Long-Term Outcome of Prostate Artery Embolization for Patients with Benign Prostatic Hyperplasia: Results in 630 Patients

John M. Thaler MD PhD, David B. Miller MD PhD, EBRF, Luis C. Delgado MD PhD, Lucio Fernandez MD, John P. Poulos MD, Susan Y. Chang MCEP, Maria Duarte MD, Antonio D. Oliveira MD PhD

Bariatric embolization of arteries for the treatment of obesity (BEAT Obesity): 6- to 12-month safety and efficacy data

C. Vitoria, J. Valsaravathy, E. Novak, O. Akkaram, L. Chouin, B. Hilly, K. Hong, A. Fischman, R. Patel, E. Shin, K. Shetty, H. Gersman, I. Marcus, D. Krashinsky, A. Anisimov

Bariatric embolization of arteries for the treatment of obesity (BEAT Obesity): 6- to 12-month safety and efficacy data
DOI: <https://doi.org/10.1016/j.jv.2016.12.747>

Future Embolotherapy Horizons

Prostatic Artery Embolization in the Treatment of Localized Prostate Cancer: A Bicentric Prospective Proof-of-Concept Study of 12 Patients

Udo Maderwald, MD, PhD^{1,2}, Lukas Hochhausmann, MD, Thomas Anselmi-Dietrich, MD, Johannes Diebold, MD, Alexander Müller, MD, Gabriel Engeler, MD, Christian Mollathaus, MD, Jask-Karen Klotz, MD, Hans-Peter Schödel, MD, Christian Klotz, MD

Prostatic Artery Embolization in the Treatment of Localized Prostate Cancer: A Bicentric Prospective Proof-of-Concept Study of 12 Patients
DOI: <https://doi.org/10.1016/j.uro.2019.01.006> | [CrossMark](#)

Early Results of Transcatheter Arterial Embolization for Relief of Chronic Shoulder or Elbow Pain Associated with Tendinopathy Refractory to Conservative Treatment

Jinli Wang, MD, Dong Zhou, MD, MD^{1,2}, Si-Huan Xie, MD, Sencong Jiao, MD, MD, Xiang-Dan, MD, MD, Jie-Jie Chen, MD, MD, Jie-Jie Chen, MD, MD

Early Results of Transcatheter Arterial Embolization for Relief of Chronic Shoulder or Elbow Pain Associated with Tendinopathy Refractory to Conservative Treatment
DOI: <https://doi.org/10.1016/j.uro.2019.01.007> | [CrossMark](#)

Embolization of the Superior Rectal Arteries for Hemorrhoidal Disease: Prospective Results in 25 Patients

Fabrizio Crudi, MD, PhD^{1,2}, Gaetano Lupo, MD, David Ciochi, MD, PhD, Clara Muga, MD, PhD, Juan-Miguel Balle, MD, Igor Salazar, MD, PhD, Vincent Vidal, MD, PhD

Embolization of the Superior Rectal Arteries for Hemorrhoidal Disease: Prospective Results in 25 Patients
DOI: <https://doi.org/10.1016/j.uro.2019.01.008>