

CTA Abdomen and Pelvis

CPT: 74174

1 Major Symptom or Complaint presented as primary indication

1.1 Abdominal pain after meals

1.1.1 Acute Mesenteric Ischemia suspected, History of:

1.1.1.1 Cardiac dysfunction

1.1.1.2 Vascular disease

1.1.1.3 Recent vascular surgery or intervention (including catheter arteriography)

1.1.1.4 Advanced age (>60)

1.1.2 Abdominal angina suspected

1.1.2.1 Pain occurs 15 to 60 minutes after eating, lasting for several hours

1.1.2.2 May be associated with constipation, flatulence, diarrhea with or without some blood admixture, nausea and vomiting

References

1. Elliot K. Fishman; From the RSNA Refresher Courses: CT Angiography: Clinical Applications in the Abdomen; RadioGraphics 2001 21: 3S-16S.
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6. Shih, Ming-Chen Paul, Hagspiel, Klaus D. CTA and MRA in Mesenteric Ischemia: Part 1, Role in Diagnosis and Differential Diagnosis Am. J. Roentgenol. 2007 188: 452-46
7. Shih, Ming-Chen Paul, Angle, John F., Leung, Daniel A., Cherry, Kenneth J., Harthun, Nancy L., Matsumoto, Alan H., Hagspiel, Klaus D. CTA and MRA in Mesenteric Ischemia: Part 2, Normal Findings and Complications After Surgical and Endovascular Treatment Am. J. Roentgenol. 2007 188: 462-471

1.2 Aching Pain in extremity relieved by rest

1.2.1 Peripheral Arteria (or Vascular) Disease suspected

References

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2. Shih, Ming-Chen Paul, Angle, John F., Leung, Daniel A., Cherry, Kenneth J., Harthun, Nancy L., Matsumoto, Alan H., Hagspiel, Klaus D. CTA and MRA in Mesenteric Ischemia: Part 2, Normal Findings and Complications After Surgical and Endovascular Treatment. Am. J. Roentgenol. 2007 188: 462-471

1.3 Erectile dysfunction

1.4 Intestinal Angina

1.4.1 Pain occurs 15 to 60 minutes after eating, lasting for several hours

1.4.2 May be associated with constipation, flatulence, diarrhea with or without some blood admixture, nausea and vomiting

References

1. Elliot K. Fishman; From the RSNA Refresher Courses: CT Angiography: Clinical Applications in the Abdomen; RadioGraphics 2001 21: 3S-16S.
2. Odenburg WA, Lau LL, Rodenberg TJ, Edmonds HJ, Burger CD. Acute mesenteric ischemia: a clinical review. Arch Intern Med 2004; 164:1054 -1062
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7. Shih, Ming-Chen Paul, Angle, John F., Leung, Daniel A., Cherry, Kenneth J., Harthun, Nancy L., Matsumoto, Alan H., Hagspiel, Klaus D. CTA and MRA in Mesenteric Ischemia: Part 2, Normal Findings and Complications After Surgical and Endovascular Treatment Am. J. Roentgenol. 2007 188: 462-471

1.5 Claudication

1.5.1 Pain, crampy in nature during or after exercise, relieved by rest

2 Working Diagnosis or Rule Out presented as primary indication

2.1 Aortic or Iliac Aneurysm Suspected

2.1.1 Abdominal and back pain

2.1.2 Dilation seen or suspected on prior imaging

2.1.3 Pulsatile abdominal mass

References

1. Jonathan Golledge, Juanita Muller, Alan Daugherty, and Paul Norman Abdominal Aortic Aneurysm: Pathogenesis and Implications for Management *Arterioscler. Thromb. Vasc. Biol.*, Dec 2006; 26: 2605 – 2613.
2. Miriam B. Rodin, Martha L. Daviglus, Gordon C. Wong, Kiang Liu, Daniel B. Garside, Philip Greenland, and Jeremiah Stamler Middle Age Cardiovascular Risk Factors and Abdominal Aortic Aneurysm in Older Age Hypertension, Jul 2003; 42: 61 – 68.
3. Stephen A. Badger, Mark E. O'Donnell, Muhammed A. Sharif, Christopher S. Boyd, Raymond J. Hannon, Louis L. Lau, Bernard Lee, and Chee V. Soong Risk Factors for Abdominal Aortic Aneurysm and the Influence of Social Deprivation *Angiology*, Oct 2008; 59: 559 – 566.
4. Martin R. Back Surveillance After Endovascular Abdominal Aortic Aneurysm Repair Perspectives in Vascular Surgery and Endovascular Therapy, Dec 2007; 19: 395 – 400.
5. C.A. Spencer, K. Jamrozik, P.E. Norman, and M.M.D. Lawrence-Brown The potential for a selective screening strategy for abdominal aortic aneurysm *J Med Screen*, Dec 2000; 7: 209 – 211.
6. Debbie Davis and Marveen Craig Unsuspected Abdominal Aortic Aneurysm *Journal of Diagnostic Medical Sonography*, May 2002; 18: 154 – 157.
7. Jack L. Cronenwett A Myth Exposed: Fast Growth in Diameter Does Not Justify Precocious Abdominal Aortic Aneurysm Repair Perspectives in Vascular Surgery and Endovascular Therapy, Mar 2004; 16: 79 – 80.
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2.2 Claudication

2.2.1 Peripheral Arterial (or Vascular) Disease suspected

2.3 Dissection of the aorta, suspected

2.3.1 Back or abdominal pain

2.3.1.1 Abnormal appearance of aorta

2.3.1.2 Acute “ripping, tearing, searing” chest, back or abdominal pain

2.3.1.3 Prior aortic repair

2.3.1.4 Shock

2.3.1.5 syncope

2.3.1.6 Unequal blood pressure in the arms

References

1. Prince Louise A, Johnson Gary A, “Chapter 58. Aortic Dissection and Aneurysms” (Chapter). Tintinalli JE, Kelen GD, Stapczynski JS, Ma OJ, Cline DM: Tintinalli’s Emergency Medicine: A Comprehensive Study Guide, 6th Edition: <http://www.accessmedicine.com/content.aspx?aID=590936>

2.4 Peripheral Arterial Disease Suspected (Consider CTA of Abdominal Aorta with Runoff 76135)

2.4.1 ABI< 0.9

2.4.2 Risk Factors ONE

2.4.2.1 Diabetes

2.4.2.2 Hypercholesterolemia

2.4.2.3 Smoker

2.4.3 Symptoms or Findings ONE

2.4.3.1 Aching Pain in extremity relieved by rest

2.4.3.2 Asymmetric Blood Pressure in Legs

2.4.3.3 Asymmetric Pulses

2.4.3.4 Bruit

2.4.3.5 Palpable Arterial Thrill

2.4.3.6 Positive or Suspicious Doppler exam

2.5 Renovascular Hypertension (Consider CTA of Abdomen 74175)

2.6 Thrombosis (clot) suspected in Vena Cava, or other abdominal veins

2.6.1 Known kidney (renal) malignancy, or other intra-abdominal tumor

2.6.2 Edema (swelling) Of legs

2.6.3 Collateral blood vessels seen on PE of abdomen

References

1. Sheth, Sheila, Ebert, Mark D., Fishman, Elliot K. Superior Vena Cava Obstruction Evaluation With MDCT Am. J. Roentgenol. 2010 194: W336-346
2. Harsh Kandpal, Raju Sharma, Shiva Gamangatti, Deep N. Srivastava, and Sushma Vashisht Imaging the Inferior Vena Cava: A Road Less Traveled Radiographics May-June 2008 28:669-689
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5. Sheila Sheth and Elliot K. Fishman Imaging of the Inferior Vena Cava with MDCT Am. J. Roentgenol., Nov 2007; 189: 1243 – 1251.

3 Abnormal Physical Exam Finding presented as primary indication

3.1 ABI< 0.9 (Consider CTA of Abdominal Aorta with Runoff 76135)

3.2 Asymmetric Blood Pressure in Legs (Consider CTA of Abdominal Aorta with Runoff 76135)

3.3 Asymmetric Pulses in Legs (Consider CTA of Abdominal Aorta with Runoff 76135)

3.4 Bruit in Leg (Consider CTA of Abdominal Aorta with Runoff 76135)

3.5 Diminished femoral pulses (Consider CTA of Abdominal Aorta with Runoff 76135)

3.6 Palpable Arterial Thrill in Legs (Consider CTA of Abdominal Aorta with Runoff 76135)

3.7 Pulsatile Mass, Aneurysm suspected

4 Abnormal Lab or Imaging presented as primary indication

4.1 Abnormal aorta or other vessel on prior imaging

5 Significant Prior Medical History presented as primary indication

5.1 Aneurysm, known from prior exams

5.1.1 Interval Follow Up After Repair if Ultrasound is Inadequate

5.1.1.1 Imaging at 3, 6, and 12 months after repair, then annually

5.1.2 Interval Follow Up of Un-Repaired Abdominal Aortic Aneurysm

5.1.2.1 2.5-2.9 cm size aneurysm: 5-year interval follow-up

5.1.2.2 3.0-3.4 cm size aneurysm: 3-year interval follow-up

5.1.2.3 3.5-3.9 cm size aneurysm: 2-year interval follow-up

5.1.2.4 4.0-4.4 cm size aneurysm: 1-year interval follow-up

5.1.2.5 4.5-4.9 cm size aneurysm: 6-month interval follow-up

5.1.2.6 5.0-5.5 cm size aneurysm: 3-6 month interval follow-up

5.1.3 Preoperative

5.2 Fibromuscular dysplasia

5.2.1 Hypertension, suspected renovascular cause ONE

5.2.1.1 Accelerated or malignant hypertension

5.2.1.2 Epigastric bruit

5.2.1.3 Failure to respond to at least 3 medications

5.2.1.4 Impairment of renal function after treatment with an ACE* inhibitor

5.2.1.5 Progressive renal failure (rising creatinine, decreased GFR)

5.2.1.6 Recurrent pulmonary edema

5.2.1.7 Severe hypertension in a child or young adult

5.2.1.8 Sudden development or worsening of hypertension at any age

5.2.1.9 Unilateral small kidney discovered with any clinical study

References

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2. Vasbinder GBC, Nelemans PJ, Kessels AGH, Kroon AA, Maki JH, Leiner T, Beek FJA, Korst MBJM, Flobbe K, de Haan MW, van Zwam WH, Postma CT, Hunink M, de Leeuw PW, van Engelshoven JMA. Accuracy of computed tomographic angiography and magnetic resonance angiography for diagnosing renal artery stenosis. Ann Intern Med. 2004; 141: 674-682

5.3 Interval Follow up of surgical repair of vascular lesion(s) at 6-month intervals.

5.4 Trauma, vascular injury suspected (treat as urgent)

References

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