IR Procedure	Routine Antibiotic Prophylaxis Reccomended	Suggested Antibiotic Regimens	Alternative Antibiotic Regimens	Comments
Implanted central venous access ports	TRA uses antibiotics for ports	**1–2 g cefazolin IV**	Vancomycin recommended in penicillin-allergic patients	N/A
Tunneled dialysis catheters	Yes, including exchanges	**1–2 g cefazolin IV**	Vancomycin recommended in penicillin-allergic patients	N/A
Other central venous access catheters, including nontunneled hemodialysis catheters	No, **except in high-risk patients, including immunocompromise**	**High-risk Infection Patients: 1–2 g cefazolin IV**	Vancomycin recommended in penicillin-allergic patients	N/A
Percutaneous abscess drainage	Yes if not already on antibiotics	**One of folloing single agent: meropenem, imipenem/cilastatin, doripenem, piperacillin/ tazobactam**	Metronidazole in combination with ciprofloxacin, levofloxacin, ceftazidime, ampicillin, sulbactam, or cefepime	Antibiotics should cover anticipated organisms for empiric treatment and then be adjusted for final culture results
PleurX Catheter	May consider, yes	**1–2 g cefazolin IV**	Vancomycin can be considered in patients with penicillin allergy	
Percutaneous transhepatic biliary drain and cholecystostomy placement	Yes for new placement and routine exchanges	**1st: 1 g ceftriaxone IV**	2nd: 1.5–3 g ampicillin/ sulbactam IV; 3rd: 1 g cefotetan IV plus 4 g mezlocillin IV; 4th: 2 g ampicillin IV plus 1.5 mg/kg gentamicin IV. Vancomycin or clindamycin, gentamycin recommended for penicillin-allergic patients	
Percutaneous nephrostomy placement	Yes except in routine catheter exchange for low-risk patients	**1st: 1–2 g ceftriaxone IV single dose**	Vancomycin recommended in penicillin-allergic patients	**Patients with indwelling ureteral catheters, ureteroileal anastomosis should be considered high risk**
Percutaneous nephrostomy Exchange	Yes for high risk patients	**1st: 1–2 g ceftriaxone IV single dose**	2nd: 1.5–3 g ampicillin/sulbactam IV every 6 h + 5 mg/kg gentamycin IV single dose. Vancomycin recommended in penicillin-allergic patients	**Patients with indwelling ureteral catheters, ureteroileal anastomosis should be considered high risk**
Gastrostomy tube placement	Yes for push and pull type	**1–2 g cefazolin IV**	Vancomycin or clindamycin-gentamycin is recommended for penicillin-allergic	Special consideration: 1–2 g cefazolin IV pre-procedure for push-type gastrostomies in patients with head and neck cancer
Percutaneous vertebral body augmentation	Yes	**1–2 g cefazolin IV**	Vancomycin recommended in penicillin-allergic patients	Vancomycin recommended in penicillin-allergic patients
TIPS	Yes	**1st: 1 g ceftriaxone IV**	2nd: 1.5–3 g ampicillin/ sulbactam	Vancomycin or clindamycin/ gentamycin recommended for penicillin-allergic patients
Uterine artery embolization	Yes	**1–2 g cefazolin IV**	Cefazolin Allergy: 1st: 900 mg clindamycin IV + 1.5 mg/kg gentamicin; 2nd: 2 g ampicillin IV; 3rd: 1.5–3 g ampicillin/ sulbactam IV; 4th: 100 mg doxycycline twice daily for 7 d (in women with hydrosalpinx)	
Hepatic embolization and chemoembolization	Yes	**With competent sphincter of Oddi**: 1st: 1.5–3 g ampicillin/ sulbactam IV (hepatic chemoembolization) **With incompetent sphincter of Oddi**: 1st: oral moxifloxacin 400 mg/d beginning 3 d before and continuing for 17 d postprocedure	metronidazole IV (hepatic chemoembolization); 3rd: 2 g ampicillin IV + 1.5 mg/kg gentamicin (hepatic chemoembolization); 4th: 1 g ceftriaxone IV (hepatic chemoembolization or renal, splenic embolization) **With incompetent sphincter of Oddi:** 2nd: levofloxacin 500 mg/d + metronidazole 500 mg twice daily beginning 2 wk **after** chemoembolization **with** bowel preperation of neomycin 1 g + erythromycin base 1 g orally at 1, 2, and 11 PM the day before chemoembolization and 1 g ceftriaxone IV preprocedure; 3rd: 1.5–3 g ampicillin/sulbactam IV; 4th: 1–2 g cefazolin IV with 500 mg metronidazole IV preprocedure followed by amoxicillin/clavulanic acid for 5 d postdischarge	
Liver tumor ablation	Yes, especially in high risk patients (eg history of biliary–enteric anastomosis, cirrhosis, diabetes)	**Low-risk patients:** 1–2 g cefazolin IV **High risk patients:** 1st: oral levofloxacin 500 mg/d + oral metronidazole 500 mg twice daily beginning 2 d before and continuing for 14 d after ablation + neomycin 1 g and erythromycin base 1 g orally at 1, 2, and 11 PM on the day before ablation	High risk patients: 2nd: 1.5 g ampicillin/sulbactam IV; 3rd: vancomycin or clindamycin can be given for Gram positive coverage and gentamicin for Gram negative coverage	
Vascular malformation	Yes	**1st: 1–2 g cefazolin for adults**	2nd: cefazolin 25 mg/kg for pediatric patients, 3rd: clindamycin 10 mg/kg for oral lesions	Recommendations primarily for percutaneous sclerotherapy/ablation of slow flow venous or venolymphatic malformations.
Radioembolization	**No consensus**	**With competent sphincter of Oddi:** none **When infusing proximal to cystic artery:** ciprofloxacin 500 mg twice per day for 5 d **With incompetent sphincter of Oddi:** 1st: oral moxifloxacin 400 mg/d beginning 2d before radioembolization and continued for 10d after	**With incompetent sphincter of Oddi:** 2nd: oral moxifloxacin 400 mg started 3 d before radioembolization and continued for 18	Amoxicillin/clavulanic acid 875 mg twice daily for similar duration if allergic to moxifloxacin
Gastrointestinal embolization	**Only for patients with hemobilia**	**1st: 1 g ceftriaxone IV**	2nd: 1.5–3g ampicillin/ sulbactam IV; 3rd: 1 g cefotetan IV þ 4 g mezlocillin IV; 4th: 2 g ampicillin IV þ 1.5 mg/kg gentamicin IV	If penicillin allergic, can use vancomycin or clindamycin and aminoglycoside
Partial splenic embolization for hypersplenism	**Antibiotics recommended if > 70% of spleen is expected to be embolized**	1st: Gentamicin 10 mg/kg/d, cefoxitin sodium 100 mg/kg/d beginning 2 h before and continuing for 5 d after; soaking of embolic spheres with 1,000,000 U penicillin and 40 mg gentamicin also recommended	2nd: 1 g cefoperazone every 12 h postprocedure for 5 d following; 3rd: embolic particles suspended in gentamicin (16 mg) in combination with 5 d course of IV amoxicillin/clavulanate (3 g/d) and ofloxacin (400 mg/d)	N/A
Renal tumor ablation	**Only for patients with colonized urothelium**	**1 g ceftriaxone IV**	N/A	Clindamycin/ gentamycin recommended for penicillin-allergic patients
Other tumor ablation (lung, adrenal, bone)	**No consensus**	**1–2 g cefazolin IV**	N/A	Special consideration: for patients with single lung, ablation/amoxicillin clavulanate 2 g or ofloxacin 400 mg/d continued for 3–7 d postablation

Prophylactic antibiotic agents are, by definition, those that are administered before creation of an incision or puncture wound.
Recommendations from the governing body on hospital and patient safety standards (The Joint Commission) are that intravenous (IV) antibiotic agents be administered within 1 hour of an incision

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