Figure 1. Normal Liver Anatomy and the Principle of Portal-Vein Occlusion with and without Concomitant Chemotherapy.

Panel A shows normal liver anatomy, with segments II through VIII shown. Segment I, which lies posteriorly, next to the vena cava, is not shown. The portal vein is shown, with the right portal vein, the left portal vein, and the left medial branch to segment IV. Panel B shows occlusion of the right portal vein, which results in ipsilateral atrophy of the right hemiliver (segments V through VIII) and contralateral compensatory hypertrophy of the left hemiliver segments I through IV. Panel C shows metastases throughout the liver. Panels D, E, and F show a two-stage procedure. In the first stage, small tumorectomies in the potential left remnant hemiliver and occlusion of the right portal vein by means of portal-vein embolization or ligation are performed (Panel D) with concomitant local intraarterial or systemic chemotherapy, resulting in the shrinkage of residual tumors and the right hemiliver, with compensatory hypertrophy of the contralateral hemiliver (Panel E). In the second stage, a curative liver resection (right hemihepatectomy, segments V through VIII, or extended right hemihepatectomy, including segment IV) is performed (Panel F).