**Supplementals legends**

**Supplement 4. Characteristics of histologic types of hepatocellular adenomas (HCA)**

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| Types | Frequency | Risk factors | Malignant transformation | Symptomatic Bleeding\* | MRI characteristics |
| HHCA | 30-40% | OCP | Rare |  | Diffuse homogeneous signal drop  Iso- or slight hyper-intense signal on T2 weighted image  No persistent enhancement in the portal and delayed phase |
| IHCA | 35-45% | OCP, Obesity |  |  | Liver steatosis (30%)  T2-weighted - strong signal or atoll sign\*\*  Strong arterial enhancement  Persistent enhancement in hepatobiliary phase (50%) |
| β-IHCA | 5-10% | OCP, Male | High |  | No specific findings |
| βHCA | 20% | OCP, Male | High |  | No specific findings |
| shHCA | 4% | OCP, Obesity |  | High | Not described |
| UHCA | 5-10% | OCP |  |  | No specific findings |

HHCA - Hepatocyte nuclear factor 1A mutated HCA, IHCA - Inflammatory HCA, β-IHCA - β-catenin mutated IHCA, βHCA - β-catenin mutated HCA, shHCA - sonic hedgehog HCA, UHCA - unclassified HCA, OCP - oral contraceptives \*- Any HCA with ASS1 (argininosuccinate synthase 1) marker is at high risk for hemorrhage. \*\*Atoll sign - Peripheral rim of bright signal