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COMMENTS

I am delighted to be asked to comment on "Hepatocellular Carcinoma" by Parikh et al. They have covered all aspects of disease including incidence in India as well.

The clinical presentation of HCC differs depending on the coexisting liver disease. The patients may present with abdominal pain with a hepatic mass or with symptoms or signs due to liver cirrhosis. A proper screening programme of high-risk patient may help in early detection of cases as HCC may arise de novo in an otherwise normal liver or in patients with liver cirrhosis from regenerative nodules to dysplastic nodule and finally early to advanced HCC.

Imaging is performed for early diagnosis, correct staging and a follow-up of the treated lesion. Dynamic incremental CT / MR scanning of the liver during the non-equilibrium phase (dual and triple phase CT / MRI) and ultrasound with colour Doppler are the preferred methods for detection of HCC.[1-2]

The treatment of choice for HCC remains surgical resection or liver transplantation in carefully selected cases. However, the curative treatment (liver transplantation, surgical resection, percutaneous radiofrequency ablation) can only be carried out in <25% of cases. This is either because of operational contraindications (advanced cirrhosis in particular), the presence of locally advanced disease (multifocal lesions, invasion of the portal vein) or, more rarely, technical reasons (difficult to access sub-capsular/diaphragmatic locations).[5] Though the surgical resection of the tumour should be considered as the first choice of treatment it is mainly useful for small (<5 cm) peripherally situated tumours with good hepatic function giving a 5-year survival rate of 50%.[6] The causes of death in patients with HCC following surgical and non-surgical management show that the incidence of hepatic failure is high in post-operative patients. In order to increase the safety of major hepatectomy by preventing post-operative (right hepatectomy) hepatic failure, right portal vein embolization in non-cirrhotic liver is a very useful procedure. Following this procedure there is redistribution of portal blood flow with hypertrophy of remnant liver.[7] In patients not amenable to surgical intervention, variety of different percutaneous therapeutic interventional techniques have been investigated which have been very nicely covered in this review. TACE alone or along with PEI / PAI has shown better tumour response rate than systemic chemotherapy. The commonly used chemotherapeutic agents in TACE are epirubicin, mitomycin-c and cisplatin. We have compared TACE alone and TACE combined with PEI in some large encapsulated lesions and found the combination to be better. I want to add one more option (radionuclide therapy) in this list of interventional therapies for the treatment of unresectable HCC. Studies using radionuclides such as iodine-131, yttrium-90 microspheres, holmium-166, phosphorus-32 and rhenium-186 conjugated to monoclonal antibodies, lipiodol or chemical compounds and injected systemically or transarterially have shown good but variable results. The aim of internal radionuclide

therapy (in TART) is to deliver the maximum amount of radionuclide to the hepatic/portal vein tumour where it must reside for a period sufficient to deliver the scheduled dose of radiation and the amount delivered to the non-tumorous liver parenchyma and other organs should be as low as possible. We have noted transarterial radionuclide therapy with Re-188-HDD-lipiodol as safe, effective and promising therapeutic option in patients with inoperable large and/or multifocal HCC. Gastrointestinal haemorrhage from a hepatocellular carcinoma (HCC) during the natural course of the tumour is unusual. Transcatheter arterial embolization of the tumour as an emergency procedure is done to reduce gastrointestinal haemorrhage in some patients. The efficacy of embolization in the control of bleeding in such patients was evaluated and were found very useful when other modes of therapy are either not feasible or ineffective [8]. Radiofrequency hyperthermia using the "cooled tip" needle is one of the latest ultrasound guided percutaneous treatments of HCC. The continuous cooling of the needle tip allows tissue heating and necrosis far from the electrode without tissue charring.

The authors have raised a very important aspect of prevention with excellent conclusion.

As an interventional radiologist I want to say that the development and advancement in diagnostic and therapeutic techniques with availability of excellent supportive management have further augmented the therapeutic efficacy in the treatment of HCC. However, these management options also have identified the problems and lacunae in the present management approach which are likely to be further refined in future with stringent prospectively designed trials to solve the various unresolved issues in the treatment of HCC .

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