H. pylori eradication after duodenal ulcer perforation

Eradication of *H. pylori* pylori is indicated when patients infected with the organism have peptic ulcer or its complications. A single, definitive treatment regimen for *H. pylori* eradication has not yet been determined due to issues of efficacy, side effects, cost, and patient compliance. Many recent studies have tested a one-week triple-drug therapy regimen and have found it to be efficacious. European studies demonstrate successful eradication levels between 84% and 96% with this therapy. This therapy has not been tested in patients with complicated diseases such as ulcer perforation. We compared the efficacy of two different *H. pylori* eradication regimens in patients with perforated duodenal ulcer treated with primary closure.

The study protocol was approved by the institution’s ethics committee, and all patients gave informed written consent. Fifty-three patients with duodenal ulcer perforation were operated on with simple closure. Forty of them had positive 13C urea breath test for *H. pylori*, and were randomized into two groups. One group (n=20) was instructed to use twice-daily clarithromycin 500 mg and amoxicillin 1 g for seven days and omeprazole for 28 days. The second group (n=20) was treated with these antibiotics for fourteen days and omeprazole for 28 days. Six weeks after treatment had ended, follow-up breath tests were performed to assess eradication. Eradication was successful in 6 patients (30%) in the first group, and 13 (65%) in the second group (p=0.027).

We cannot explain the low eradication rates in our study, but this might be because of the ineffectiveness of these antibiotics, due to their widespread and unnecessary use in our country.

In conclusion, although 2-week therapy with amoxicillin and clarithromycin is more effective than one-week drug therapy, both regimens are not acceptable for patients with perforated duodenal ulcer treated with primary closure, because of low eradication rates.

---

References


---

Hepatitis B leading to hepatocellular carcinoma: calculating the risk

There is a conceptual error in the cost analysis used by the Indian Association for Study of the Liver (INASL) in their consensus statement. They quote the data of Dhiri and Mohandas, which suggest that the actual incidence of hepatocellular carcinoma (HCC) due to hepatitis B virus (HBV) is only 4935 every year. In their cost analysis they use innovative mathematics to arrive at the figure of 5000 cases of HCC prevented by vaccination each year. They take the total number of births as 27 million, with a carrier rate of 4%. This works out to 1.08 million potential HBV-positive babies born to carrier mothers, who can be protected by vaccination. They have multiplied this 1.08 million by 0.46%, which is the figure they have used to calculate the incidence of HCC in HBV carrier babies, and arrived at the figure of 5000 HCC prevented by vaccination.

This figure of 5000 HCC prevented is true only for the first year of the program. In the next year, at 0.46% HCC per year, another 5000 of this first year’s cohort will be saved besides 5000 from the newborn cohort who are vaccinated that year. Thus, 10,000 cases of HCC will be prevented in the second year. In the year 2060, assuming life expectancy is still 60 year and as-
summing the program is continued every year, 300,000
(i.e., 60 x 5000) people are saved in that year alone.

This is the conundrum. A population of 1000
million should have an incidence of 184,000 HCC per year.
The calculations above suggest that while reckoning
for benefits, any figure from 5000 to 300,000 HCC
prevented per year can be used depending on the duration
of the program. Yet the real incidence of HCC due to
HBV is only 5000 per year. Obviously the calculations
and the premises being used are in error.

We expect the government to open its purse strings
on the recommendations of medical experts. It behooves
us to try and get our sums right.

Jacob M Pullyel, Vikas Tanuja,
Kapil Jindal, Neena Thomas
Department of Pediatrics and Neonatology,
St Stephen's Hospital, Tis Hazari, Delhi

References
1. Indian Association for Study of the Liver, Hepatitis B in
India: Therapeutic options and prevention strategies –
Consensus Statements. Indian J Gastroenterol 2000;19(Suppl
3):CS4-C74.
2. Dhir V, Mohandas KM. Epidemiology of digestive tract

Reply from the authors

The consensus statement is based on the opinion of
two experts, Dr Vinay Dhir and Prof Narendra Athar.
whose data were discussed at the conference with other
experts and delegates. Dr Pullyel et al are justified in
stating that 5000 cases prevented every year will keep
adding up, and while reckoning cost benefits any figure
from 5000 to 300,000 cases of HCC prevented per year
can be used depending on the duration of the vaccination
program. There could be many other interactive factors
that could help enhance the number of HCC cases
prevented per year. It is thus not a matter of simple
addition of the cases prevented per year.

It is not appropriate to state that by vaccinating
infants, only 1.08 million cases with chronic HBV
infection will be prevented. Many more cases will be
prevented that could otherwise have become infected by
transmission from these HBV-infected children.

Certainly more work needs to be done to estimate
the cost of prevention of HBV-related HCC in our
country. This may require developing an appropriate model.

Shiv K Sarin

Cholecystoduodenoplasty for
high-output duodenal fistula

The article on cholecystoduodenoplasty for high-output
duodenal fistula by Rohindia et al was interesting.
Conservative treatment and/or delayed surgery achieves
fistula closure in a majority of patients provided there is
no distal obstruction and no specific pathology
(malignancy or tuberculosis) at the ulcer site.

Primary closure or early repair or reconstructive
procedures carry high incidence of re-leak and mortality
as there is hyperemia and inflammatory edema around
the fistula and the patients are in septicemia and nega-
tive nitrogen balance. In the authors' series, the overall
mortality from duodenal fistula treated by various tech-
techniques is approximately 80% (22/27). With cholecysto-
duodenoplasty alone, four (and not three, as stated by
the authors) of six patients died, three of them from leak
from earlier jejunostomy.

In patients with duodenal fistula, the gall bladder
wall, being in close proximity, is always inflamed and
adherent to the duodenum, liver and even the colon.
Mobilization of the gall bladder may thus lead to sever-
al tear and vascular compromise. Instead, a jejunal
loop may be a better choice for closure of perforation,
it is more vascular, mobile and thicker than the gall
bladder wall. The authors state that cholangitis after
cholecysto-duodenoplasty is unlikely to occur if the
cystic duct gets blocked due to inflammation. This is a
preumption, not substantiated by this or any earlier study.

We have experience of managing 78 patients with
gastrointestinal fistula in the last 4 years (1997-2000); of
these, 17 were following simple closure of duodenal
ulcer perforation. Ten patients with duodenal fistula
(output 500-1000 mL/day) were managed with conserva-
tive treatment. This consisted of maintaining nutrition
through endoscopically placed nasojugal tube or feeding
jejunostomy, re-feeding fistula output through jejuno-
ostomy after filtering it, broad-spectrum antibiotics, main-
tenance of fluid and electrolytes and transfusion of
blood and plasma.

Fistula healed in six patients in 18-47 days and in
two after delayed surgery (Billroth II gastrectomy-1,
vagotomy and pyloroplasty-1). Eight of 10 patients in
this group survived. The remaining 7 patients required
emergency surgery (duodenostomy and jejunostomy-4,
Billroth II gastrectomy-2, duodenostomy, jejunostomy
and gastrostomy-1). Four of seven patients in this group
survived. Overall, 12 of our 17 patients (70.5%) with
duodenal fistula following closure of duodenal ulcer
survived.

In our opinion, leak following closure of duodenal
ulcer perforation should preferably be treated conserva-
tively for 4-6 weeks. This allows the fistula to close in
60% of cases and surgery, if required later, carries better
results. However, if surgery is required early due to
spreading peritonitis, duodenostomy, jejunostomy and/