

CONSERVATIVE AND RADICAL TREATMENT FOR TUMORS OF THE KIDNEY*

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The first point that I wish to make, since the theme is "recent advances in urology" is that there is no recent advance in the treatment of renal tumors. This being so, all I propose to do here is to discuss some small points in technique dealing with adenocarcinoma in the kidney, and comment little on the exotica of treating odd lesions like tumors in solitary kidneys about which we've had a little experience.

Just to say a little about techniques of nephrectomy for adenocarcinoma. I do not think that there is much virtue in chasing lymph nodes *ad nauseum* right up to the left ear, and down to the feet. An adequate radical nephrectomy can be done through a conventional loin incision, and I think to do these vast Nagamatsu incisions, to open the chest, to feel the heart and so on, is quite unnecessary. The survival of the patient depends on the tumor biology. If you've got bad tumor biology you'll get a bad result. There's no point in spending hours and hours in taking out the lymph nodes if it isn't going to make any difference to that particular tumor, and I think it has been decisively shown, that what determines survival is the tumor biology. Lymph node metastases don't make much difference to the survival of the patient. So for this operation I always make a conventional loin incision, take out the tumor and if there are a few lymph nodes in the hilum I sometimes scratch them out but I don't believe it makes any difference to the survival of the patient. We haven't used embolization very much in the Institute of Urology. We have embolized a few cases, I think it does reduce tumor bulk, it reduces vascularity for your nephrectomy but in my opinion, no kidney is inoperable if you take your time and you've got plenty of blood, and this is what I tell all my junior staff. You can just work your way quietly round it, and if you can get a clamp on the artery early on in your radical nephrectomy, everything settles down. One of the ways of doing this, of course, if you want to do it without a programized embolization is to put in a Swan-Ganz catheter at the time of the operation which is passed up the aorta and into the renal artery, and then blow up the balloon just when the kidney is exposed. It is claimed that this helps and, that

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when you get the patient open on the table the catheter's already been placed in the X-ray department and you just blow up the balloon to produce arterial occlusion, reduce your vascularity and you can then get on with your nephrectomy. I haven't tried this method. From a practical point of view it seems difficult to take a patient to the X-ray department, put in a balloon catheter, and transfer him up to the operating theater; and so I just do a rather simple, straight nephrectomy for this.

Ancillary Therapy

There's one rather odd case I'd like to mention here. This patient had enormous metastases in his lung. We gave him a straight nephrectomy 15 years ago; and it was fashionable at that time to put them on testosterone so we put him on testosterone and the metastases went right down and disappeared. Eighteen months later they returned; they were the same size and really vigorous. Then progesterone came in and we put him on progesterone and the tumor just went away and he's been on progesterone now for 15 years. And I don't know whether to take him off or not. He's just fine with it.

Now let us go on to the problem of the patient who's had a nephrectomy on one side, for either a benign disease or a tumor, and he shows up with a tumor in his remaining solitary kidney. With the advent of regional hypothermia, renal preservation and so on, it became very apparent about 15 years ago that, if you were lucky, you could treat these patients by a local resection. And over the last 15 years I've treated nearly 30 such patients with tumors in solitary kidneys, and about 10 patients who've shown up with tumors bilaterally. Now the technique that we've used with most of these has been to treat them with hypothermia.

There's been quite a lot of talk of doing bench surgery on these tumors in solitary kidneys, but I don't honestly think this is necessary. There's very little that you can't do for a kidney *in situ*. A Swedish colleague used to do quite a lot of these solitary kidneys this way, taking them out, putting them on the bench, cooling them and dissecting out the tumor. But you can really get to all you want to do if you just mobilize the kidney; we put it in a nylon sling and attach the sling to a gantry that fits onto the retractor. And then you can dissect the tumor off easily. As far as I'm concerned, these tumors are of various types. First of all the tumor can appear as a polar mass at the bottom of the kidney. This is very easy to do; all you need to do is just a simple, lower, partial nephrectomy. You put a small bulldog clamp on the renal artery, put the cooling coil around the kidney and drop the temperature down in about 10 minutes to about 15-20°C. And it is a simple dissection just to take the tumor off with a margin of normal renal tissue. The ones that are a little more difficult are when you get a central tumor mass. Don't, however, be put off by an angiogram, it's always worth having a look at one and having a go; I had one patient who had seven tumors in the kidney. I opened him up for one and to my

horror he had umpteen others, like a little bunch of mushrooms. So we settled down and took them all out. And this chap is still alive. He started with a clearance of 30 and he's still got a clearance of 30 and that's about 10 years ago. I think the message is it's well worth having a go at these tumors in solitary kidneys.

Now we can have a look at the results of these for the survival rate. There's a group called the Intra Renal Surgical Society of Europe where we meet together once a year and have a look at such rather exotic cases; and for one of these a colleague collected material for about 65 cases of tumors in solitary kidneys to see how they survived. Now the great message is they survived very well; better than you'd expect from the success rate of ordinary conventional tumor treatment in one kidney. The survival rate is over 80%. Now this is probably again purely a reflection of their biology. Nobody would survive with a tumor in a solitary kidney unless it was low-grade type of tumor. So they tend to be good tumors, and if you remove them the patients do very well. And as I say the survival is well over the 80% 5-year mark, for this group of people.

Another type of situation you get with this, is when a patient presents with a tumor in both kidneys. I've had about 10 cases of these now. And the message here is much less pleasant. In the ones we've done, a good two-thirds of them have died within about 18 months to 2 years after having had their tumors taken out on both sides; they are usually high-grade tumors biologically. It would seem that you've probably got a primary in one kidney and the tumors on the other side are metastatic.

With the tumor in the solitary kidney, there are two possible situations; there's the patient whose had a kidney out for a benign disease, and there's the patient whose had a kidney out for a malignant disease. In the case of the former you're no worse off than with someone who comes up with a tumor in one of a pair of ordinary kidneys. They run more or less true. If the kidney's taken out for a malignant disease the prognosis is rather worse, but what determines the prognosis in my series is the interval between the operations. The longer the interval the better the prognosis. We found that if the interval between the two operations is less than 18 months the prognosis was bad, but if it was extended (our longest was 14 to 15 years) the prognosis was very good. So presumably with the longer interval you are dealing with a low-grade tumor. All I want to say about such adenocarcinoma is, cool the kidney, clamp it, fillet out the tumor, and then reconstruct the kidney. And they do very well.

Finally let's move on to the transitional cell tumors. We've had a few of these, and I am treating them in two ways now. Some have been treated in an open operation when there's been a single caliceal tumor and we haven't wanted to do a complete nephroureterectomy if the bladder's been clear on the contralateral side; it always seems to me rather unnecessary. If you've just got a little caliceal

tumor, to go and do a wedge partial resection. I've had about 4 of these now over the years and they seem to have done well and they haven't produced recurrent tumors. The other situation is where you get multiple tumors; the question is whether you should take out the tumor with a conventional nephroureterectomy or do something more conservative. If you've got a normal upper track on the other side I suppose the conventional wisdom is that you should take it out and do a nephroureterectomy, but you quite often get cases where they've had the one side taken out and they show up with multiple lesions in their remaining kidney, or remaining ureter. What we've done with two of these in the Institute of Urology over the last couple of years is to do a percutaneous puncture into the kidney and to treat these by electrocoagulation or excision down a nephroscope track and then, because the radiotherapists were a bit worried about seeding, possibly along the track, they have been treated with a radioactive tantalum wire which has been placed down the track and kept in place for a few days to give the track a radiation sterilizing dose. One of these patients died and one is still alive at about 18 months after the original treatment but I think one has just got to regard it as palliative treatment. There is a paper on the effect of doing either nephroureterectomy or local resection of the TCC; the results, as far as I am concerned, are biological: if it's a P₁ type tumor and you do a local resection, the patient is likely to do well, if it's a high-grade tumor and you do a local resection, the patient will probably do badly. So there seems quite an excuse with TCC tumors to be conservative if it's a low grade tumor, (if you can be sure of the tumor grade) to just do a local resection, to take out a segment of the ureter and do an end-to-end anastomosis rather than sacrificing the whole of an upper track which may be needed later. But if it's a high-grade tumor you should do a nephroureterectomy; there is some good evidence for conservatism. And I always think both with an adenocarcinoma and the TCC, that it's a sort of Act of God that your kidney tissue is in two bits, and if you had a tumor in the liver you wouldn't remove the whole organ and equally it seems unnecessary to remove the whole of one good kidney if you've just got one small local lesion. I have had three patients with small, lower, polar lesions with adenocarcinoma but with perfectly normal contralateral upper tracks and I've just done a local, polar partial resection on them. They are all doing well, one of them for 10 years, one for 12 years, and there has been no further trouble. So I think there is some excuse for being conservative in this field, though I realize that to treat malignancies with local resection is almost invariably disapproved of by oncologists.

These are the main points I wanted to put across but I am afraid that the great message is there have been no recent advances in the treatment of adenocarcinoma of the kidney.

DISCUSSION

Chisholm: May I ask Mr. Wickham a couple of questions? Do you really take them all out through the same incision?

Wickham: Yes. I find I can do everything through the loin. Sometimes you have to open the diaphragm a little to get round the corner.

Chisholm: The other question is, did you, in your studies of enucleated tumors, have biopsies taken of the adjacent kidney tissue? Because there's a plane of cleavage, isn't there?

Wickham: Yes. I didn't do this but Professor Rossetti from Italy did. He biopsied both sides and usually there's a very nice enucleable plane on these though not always. So you can usually sort of split the lot; it's rather like a nucleated prostatic adenoma. You can skip these tumors out, but if you biopsy that area across you'll find there's sometimes little extensions of tumor. Professor Rossetti did this. In a low percentage, about 10%, you find there's something on the other side of the plane; so what I usually do, is try and get about a half a centimeter clearance all round.

Chisholm: Yes, I think that was the point I was really wanting to make, because the plane is a very easy one; you just put your finger in.

Wickham: Not always; in fact only in a small number of cases.

Chisholm: Well in the only ones I've met, which is two. But I was aware that there is evidence that one really should do a mini-partial nephrectomy.

Wickham: That's right. In about 10% of cases they cross this sort of apparently nuclear plane. It's a nice little operation.

Khalifa: Is it always easy to do?

Wickham: If you're getting down in towards the hilum, it's a good idea to put a clamp on the renal vein; if it's just a polar tumor like the first one, it's very easy just to get away with arterial clamping because you don't get into really big vessels. But if you're getting down into the center of the kidney, you must put a clamp on the renal vein; otherwise you get a lot of refluxing venous blood coming straight out of the cava.

Khalifa: If you're dealing with a total nephrectomy, do you still go on trying to control the vessels before you do the nephrectomy?

Wickham: Yes. That is one thing I should have mentioned. We tend to do a routine venogram on these patients, if it's a bulky tumor, just to know whether we're going to have a problem with the vena cava, whether we're going to have to open the

cava or resect a chunk of it, sometimes there's a big one. They have been known to go right up into the right atrium.

Dajani: What about local invasiveness? I had a patient recently where the colon was involved and the spleen and the pancreas. I opened them and took a biopsy, thinking to do radiotherapy. The patient, as so often happens in our part of the world, was not satisfied, and went to Spain. There they removed the spleen, did a partial pancreatectomy, hemicolectomy and removed part of the muscle. What do you think of that?

Wickham: I don't think you should do that. As I say, you can remove any tumor if you spend enough time and take out enough round it. It probably didn't help the patient too much, I would have thought.

Hussien: Is this 80% survival rate in cases of solitary tumors due to the biological behavior or due to the freezing of the kidney?

Wickham: I don't think it's due to anything we do; it's the biology, I'm absolutely certain.

Hussien: You don't think it helps to kill the residual parts?

Wickham: No. We don't really freeze. It's only a drop down in temperature. We're not doing cryosurgery, you know. One patient had a sort of divided renal vein going into the cava, and there was a tongue of tumor going up each limb. So I started taking it off, peeling it backwards, and I thought all was going well, and the tumor came out nicely and I suddenly realized I hadn't got any venous return on the kidney. There was just nothing, I'd taken away the main vein, and there was just sort of, 2/3rds of a kidney, and one big dilated collateral going down the ureter. We put the kidney back and unclamped it and it perfused down this ureter, and this woman is still alive, and fit just with her venous return going down a ureteric collateral. She just has no main vein at all; I couldn't believe it. She's still alive and going.

Tellaloğlu: And the kidney is functioning?

Wickham: The kidney is functioning.