Carcinoma of the Anus

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Carcinoma of the anus represents about 2% of cancers of the large bowel. From 1950 to 1970, 204 patients were treated for this condition. Included were 113 patients with squamous cell carcinoma (31 perianal), 64 with basaloid squamous carcinoma, 8 with Paget's disease of the anus, 7 with melanoma, 6 with basal cell carcinoma, and 6 with adenocarcinoma. Combined abdomino-perineal resection was the treatment of choice except for perianal lesions; for these, local excision was used most frequently. Inguinal node dissection was used infrequently, and it is not possible to draw meaningful conclusions from the data. Overall survival rates for patients having anal squamous cell carcinoma are similar except when lymphatic invasion is present; then basaloid lesions have a significantly better prognosis. For rare anal carcinomas, histopathologic findings dictate the end results—the better the findings the more satisfactory the results.

C ARCINOMA of the anus can be conveniently separated into the more common lesions, such as squamous cell carcinoma and basaloid squamous carcinoma, and the rare lesions, such as Paget's disease of the anus, melanoma, adenocarcinoma, and perianal basal cell carcinoma. Squamous cell and basaloid squamous carcinoma comprise approximately 2% of all lesions of the colon, rectum, and anus.[9] Over a 20-year period (1950 to 1970), the Connecticut Registry found that only 200 cases of squamous cell carcinoma of the anus had been reported by the 31 participating hospitals, testifying to the infrequency of this lesion.[8] The remaining lesions comprise only 1% of all carcinomas of the anus.

Because of the various therapeutic modalities that are available and the lack of certain knowledge concerning the proper application of these procedures, this review was undertaken with the express purpose of comparing and contrasting the histopathologic aspects of the two commonly occurring carcinomas as well as delineating the most appropriate treatment and reporting the results. Controversy has arisen concerning the nature of basaloid squamous carcinoma in relation to squamous cell carcinoma,[6,7] and because of this a comparative analysis of these two types comprises the main portion of this review. On the basis of the results obtained, a more thorough understanding of the types of therapy most appropriate for these lesions can be achieved. Subsequently the four types of rare lesions are discussed, simply detailing presentation, type of treatment, and therapeutic results. Due to the rarity of these lesions no worthwhile statistical data could be generated.

Methods and Materials

This retrospective review comprises 204 patients who were treated for carcinoma of the anus from 1950 to 1970. The following histologic types are included: squamous cell carcinoma (113), basaloid squamous carcinoma (64), Paget's disease of the anus (8), melanoma (7), basal cell carcinoma (6), and adenocarcinoma (6). Because of the histologic configuration of these tumors and the rarity of the diagnosis in the early portion of this series, the histologic aspects of all squamous cell carcinomas and basaloid squamous carcinomas were reviewed. Lesions that showed characterization were classified as "squamous cell carcinomas"; those demonstrating basaloid transitional cell changes were classified as "basaloid squamous carcinomas." At least 20 lesions originally thought to be squamous cell carcinomas were found to be basaloid squamous carcinomas. Included in this series as basaloid squamous carcinomas are cloacogenic carcinoma, basaloid carcinoma, and transitional cell carcinoma of the anus.[4] The lesions were classified further according to their location in relation to the dentate line. If a lesion involved the dentate line it was classified as "anorectal."

TABLE 1. *Vital Statistics*

	Squamous cell carcinoma	Perianal	Basaloid squamous carcinoma	P*
Total no. pt	113	31	64	
Male	37	12	18	NS
Female	76	19	46	NS
Age, year				
Average	56.2	52.5	59.7	NS
Range	27–81	27–72	40–80	

* For purposes of later statistical comparison of squamous cell carcinoma and basaloid squamous carcinoma, a P value for the distribution of these lesions was calculated. In subsequent tables it will be reported only when significant. NS = not significant.

Those lesions that were inside or on the anal verge but did not encroach on the dentate line were classified as "anal canal lesions." Carcinomas arising outside the anal verge but within a radius of 5 cm of the anus were classified as "perianal lesions." Of the 113 squamous carcinomas, 58 were anorectal lesions, 24 were anal canal lesions, and 31 were perianal lesions. Of the 64 basaloid squamous carcinomas, 53 were anorectal and 11 were anal canal lesions. No basaloid squamous carcinomas occurred in the perianal region, but because previous studies[1,2] showed that perianal squamous carcinomas tended to be less invasive than their anal counterparts, it was necessary to include them as a separate category for analysis of both histopathology and results of treatment.

Clinical Characteristics

Among the 204 patients with squamous cell carcinoma or basaloid squamous carcinoma, women, mainly in the fifth and sixth decades of life, predominated 2:1 (Table 1). Symptoms usually were associated with benign anal conditions (Table 2), the most common being bleeding, pain, and anal mass. The only symptom that was not found commonly in both groups was anal pruritus. This was found more frequently among patients with squamous cell carcinoma, probably because of the inclusion in this group of patients with perianal squamous cell carcinoma. Of the 31 patients with perianal lesions, 17 had pruritus ani.

To aid in predicting survival, duration of symptoms before operation was recorded (Table 3).

Benign anal conditions were frequent among these patients. Seventy-five of these conditions were found in 56 patients with squamous cell carcinoma whereas 28 minor anal complaints were found in 21 of the patients with basaloid squamous carcinoma (Table 4).

Histopathologic Aspects

As previously mentioned, in each case the pathologic diagnosis was reviewed and reclassified for this study.

TABLE 2. *Symptoms of Anal Carcinoma*

Symptom	Squamous cell carcinoma	Perianal	Basaloid squamous carcinoma
Bleeding	50	9	32
Pain	41	5	17
Mass	27	5	16
Constipation	11	1	10
Diarrhea	5	0	7
Pruritus*	22	17	1
Other	16	6	12
Asymptomatic	25	6	14

* P = <0.001. Differences not significant for other lesions.

The lesions were measured in greatest diameter whenever possible. When these data were unavailable, a clinical estimation of the size of the lesion was accepted (Table 5).

In order to be comparable, the lesions must be similar in depth of invasion (Table 6). However, the importance of this classification is diminished because many lesions were not available for complete pathologic study owing to the method of treatment (that is, nodes were not removed).

The other criterion of malignancy most often used is Broders' classification (Table 7). Most lesions were grade 2 or 3.

Results of Treatment

If the perianal squamous carcinomas are segregated from the squamous cell carcinomas of the remaining portion of the anus, the distribution, grade of malignancy, and depth of invasion differ only slightly from those of basaloid squamous carcinoma. Consequently, on these bases, the survival of patients with anal squamous cell carcinoma and those with basaloid squamous carcinoma can be compared.

Treatment varied widely (Table 8), but the most frequently employed modalities were combined abdominoperineal resection and local excision. These operative measures often were combined with irradiation although occasionally radiation therapy was used alone.

Because perianal squamous carcinomas differed so greatly histopathologically and in the therapy employed, their inclusion with the primary group of carcinomas would have greatly biased the survival data in favor of

TABLE 3. *Duration of Symptoms Before Operation*

Time	Squamous cell carcinoma	Perianal	Basaloid squamous carcinoma
Asymptomatic	25	6	13
<3 mo	28	8	24
3 to >3 mo	60	17	27

TABLE 4. *Benign Anal Pathologic Conditions Associated With Anal Carcinoma*

Diagnosis	Squamous cell carcinoma	Perianal	Basaloid squamous carcinoma
Fistula in ano	8	0	2
Fissure	3	0	2
Condyloma	3	0	2
Leukoplakia	10	6	1
Hemorrhoids	47	12	18
Actinodermatitis	4	2	3
Total	75	20	28

TABLE 6. *Depth of Invasion*

	Squamous cell carcinoma (82)	Perianal squamous carcinoma (31)	Basaloid squamous carcinoma (64)
In situ or superficial invasion	21	27	14
Muscle and/or fat invasion			
Nodes negative	40	4	28
Nodes positive	15		21
Unresectable lesions	6		1

squamous cell carcinoma of the anus. Therefore, as suggested previously, these lesions were analyzed separately.

Perianal squamous carcinomas like squamous cell carcinomas occur in the integumentary system throughout the body. Of 28 patients with superficial lesions, 27 were treated mainly by wide local excision; the one exception was treated by radiation. Many of the wide local excisions were accompanied by skin grafts. All 27 patients who underwent local excision survived 5 years. The remaining three patients had infiltrative squamous cell carcinoma and were treatment failures after radiation as was the one patient with an apparently in situ lesion who was treated with radiation. The survival rates for the patients with these lesions can be found in Tables 9 and 10.

Also evident is the fact that long-term survival rates in cases of basaloid squamous carcinoma were nearly identical to those in cases of squamous cell carcinoma (Table 9). Again, when these anal lesions were compared on the basis of extent of invasion (Table 10), survival rates were similar to those of patients with superficially invasive lesions or those involving muscle, underlying sphincter mechanism, or perirectal fat. However, when lymphatic metastasis had developed, a significant difference in survival was found and favored basaloid squamous carcinoma.

In analyzing the therapeutic value of each procedure, the numbers of patients treated by each modality, with the exception of combined abdominoperineal resection and local excision, were too small for statistical analysis. However, comparison of the results of the two operations

used most frequently for treatment of basaloid squamous carcinoma and of squamous cell carcinoma showed them to be essentially the same (Table 11). Because of this similarity and the infrequent use of the other procedures, analysis of the modalities of therapy was undertaken by combining the results of treatment of squamous cell carcinoma with the results of treatment with basaloid squamous carcinoma (Table 12). The other factor making comparison of therapeutic modalities difficult in this series was that each type of treatment was applied at widely different stages of tumor development. Local incision was not often applied to infiltrating lesions, making a simple comparison of treatment modalities less than ideal. Therefore the simple survival statistics are provided (Table 12).

In addition to survival rates, some information can be accrued by analyzing the effectiveness of surgical procedures in eradicating local disease. In spite of the difference in the stage of disease being treated, radical resection (combined abdominoperineal) showed much better results than local excision or radiation (Table 13). Ten patients who were treated initially by local excision later had a local recurrence and were treated by combined abdominoperineal resection. Seven of these 10 patients survived 5 years or more. Because radiation therapy was used so infrequently in this series, no worthwhile comparisons can be made.

Operative Mortality and Morbidity

Combined abdominoperineal resection was performed on 94 patients. Three died, resulting in a mortality rate of 3.2%. No deaths followed local excision or radiation therapy. Two major complications occurred: a pelvic

TABLE 5. *Distribution of Tumors According to Size*

Size (cm)	Squamous cell carcinoma (113)	Perianal squamous carcinoma (31)	Basaloid squamous carcinoma (64)
<1	19	7	6
1–<3	43	15	21
3–<5	24	4	18
5–>5	27	5	19

TABLE 7. *Broders' Classification*

Grade	Squamous cell carcinoma (82)	Perianal squamous carcinoma (31)	Basaloid squamous carcinoma (64)
1	6	9	1
2	18	16	12
3	48	5	39
4	10	1	12

TABLE 8. *Distribution by Type of Treatment*

Treatment	Squamous cell carcinoma (82)	Perianal squamous carcinoma (31)	Basaloid squamous carcinoma (64)
Combined abdominoperineal resection	47	—	33
Local excision	10	27	11
Radiation	9	4	4
Abdominoperineal resection + radiation	2	—	2
Local excision + radiation	9	—	6
Abdominoperineal resection + groin dissection	3	—	7
No treatment	2	—	1

TABLE 9. *Overall Survival Rates by Diagnosis*

Survival	Squamous cell carcinoma (82)	Perianal squamous carcinoma (31)	Basaloid squamous carcinoma (64)
5 Year ± SD, %	57.8 ± 5.4	74.2 ± 7.9	62.9 ± 6.1
10 Year ± SD, %	44.4 ± 5.7	70.7 ± 8.2	47.9 ± 6.6

$P < 0.03$ for squamous cell carcinoma and basaloid squamous carcinoma vs. perianal squamous carcinoma. All other differences between groups were not significant.

abscess, eventually leading to death of one patient, and pseudomembranous enterocolitis. Two patients died as a result of postoperative myocardial infarction. Minor operative complications included wound infection in 7 patients and urinary tract infection in 5. Severe anal necrosis developed in one patient after radiation and a diverting colostomy was required.

Inguinal Node Dissection

Of the 146 patients in this series who had squamous cell carcinoma or basaloid squamous carcinoma of the anus, 17 (6 with squamous cell carcinoma and 11 with basaloid squamous carcinoma) underwent radical lymph node dissection of one or both groins. This was done as a primary procedure in 10 cases (Tables 8 and 12). In 6 patients, the lymph nodes contained metastatic disease and 4 of the 6 patients survived 5 years or longer. The remaining 7 operations were done as secondary procedures for recurrent carcinoma in the lymph nodes of the groin. In all 7 patients the lymph nodes contained metastatic disease and none of these patients survived 5 years. At death, however, none of the patients had recurrent disease in the groin. Because this operation was

used infrequently in this series, it is impossible to draw meaningful conclusions for these data.

Rare Anal Carcinomas

Four types of unusual anal tumors were treated (Table 14): Paget's disease, melanoma, basal cell carcinoma, and adenocarcinoma.

Perhaps the most interesting of these rare lesions is Paget's disease of the anus. In four patients, the lesion was in situ and involved large areas of perianal skin. Two of these four required reexcision of locally recurrent disease. No underlying adenocarcinoma was discovered and all four patients survived. In the remaining four patients the lesions were invasive and underlying adenocarcinoma was found. In spite of radical resection, no patients were long-term survivors.

Malignant melanoma is a high-grade invasive lesion, which, seemingly, does not respond to any form of therapy. All six patients in this series died of widespread metastasis, usually involving the liver and the bones.

Basal cell carcinoma of the anus, like its counterparts elsewhere in the body, is a low-grade malignancy that can be cured by wide local excision. Six patients in this series had such lesions.

Only 6 patients were found to have adenocarcinoma. No lesions arising from the dentate line were included because they cannot be distinguished from rectal car-

TABLE 10. *Survival Rates by Invasion of Disease*

Tumor cell type	Extent of invasion					
	Superficial		Muscle and/or fat, nodes negative		Muscle and/or fat, nodes positive*	
	5 yr ± SD	10 yr ± SD	5 yr ± SD	10 yr ± SD	5 yr ± SD	10 yr ± SD
Squamous cell carcinoma, %	90.9 ± 6.1	79.0 ± 9.5	57.5 ± 7.8	40.1 ± 8.0	31.8 ± 12.4	—
Basaloid squamous carcinoma, %	78.5 ± 11.0	63.5 ± 9.6	51.8 ± 9.6	44.1 ± 9.6	70.0 ± 10.2	52.6 ± 11.6
Perianal squamous carcinoma, %	82.1 ± 7.2	78.3 ± 7.8	—	—	—	—

* Differences between groups were not significant except for anal squamous cell carcinoma vs. basaloid squamous carcinoma when nodes were positive: 5 yr, $P < 0.02$; 10 yr, $P < 0.001$.

TABLE 11. *Survival Rates by Treatment* *

Treatment	Squamous cell carcinoma			Basaloid squamous carcinoma		
	No.	5 yr ± SD, %	10 yr ± SD, %	No.	5 yr ± SD, %	10 yr ± SD, %
Combined abdomino-perineal resection	47	57.4 ± 7.2	39.8 ± 7.5	33	66.7 ± 8.2	49.5 ± 9.1
Local excision	10	80.0 ± 12.6	80.0 ± 12.6	11	90.9 ± 8.6	79.5 ± 13.2

* At both 5 and 10 years, differences between groups were not significant.

cinoma. Wide excision was curative in one case of peri-anal adenocarcinoma, but otherwise the lesions proved to be refractory to attempts at curative resection.

Discussion

Although anal carcinoma is an unusual disease, several of these lesions probably will be encountered in the course of an active surgical practice. They are difficult to diagnose in the early stages because frequently the symptoms are characteristic of hemorrhoids and other benign anal conditions.[10,12] Indeed, these benign lesions frequently accompany malignant lesions.

Perianal lesions were separated from those carcinomas of the anus occurring in the anal canal and at the anorectal junction. It has become a well-established fact[2,3] that these lesions do not invade underlying structures as frequently nor do they metastasize to lymph nodes as readily as do the more centrally located lesions. These facts must certainly account for the prolonged survival of patients with these conditions who are treated by wide local excision. However, when invasion of the underlying structures has occurred, more radical operative therapy is indicated.

Although most authors are of the opinion that there is no difference in the survival pattern after treatment of

squamous cell carcinoma and basaloid squamous carcinoma,[8-10] there is some evidence to the contrary.[6,7] For this reason the foregoing careful separation and analysis of these tumors by type and location were undertaken. The overall survival rates of patients having anal squamous cell carcinoma and those having basaloid squamous carcinoma are similar statistically, especially when invasion by the tumor is superficial. However, when no lymph node metastasis had occurred, patients with basaloid squamous carcinoma fared better than patients with squamous cell carcinoma (Table 10).

The effects of therapeutic modalities on survival are more difficult to compare because of the application of multiple types of treatment at various stages of disease. A comparison of the more frequently used modalities, that is, combined abdominoperineal resection and local excision, showed that survival rates for both groups of patients are similar. The analysis of the therapeutic endeavors themselves is also difficult for the foregoing reasons. However, in deciding to use local excision for diseases in the anal canal one must bear in mind the high incidence of recurrence associated with this treatment (Table 13). It is true that several of the patients initially treated by local excision were later cured of their recurrent disease by a more radical operation, but many were not. Certainly the safest overall approach to these lesions is combined abdominoperineal resection. Local excision must be reserved for those rare small lesions that do not involve the underlying anal musculature.

Although very successful in some cases, radiation[11] did not prove to be beneficial in this series. It must be remembered that this treatment was usually used for those patients with advanced lesions and therefore the results are as one would expect.

The exact use that can be made of radical groin dissection continues to be an enigma.[5,14] Prophylactically, this modality does not seem to have any use. The only statement that can be made from the current study is that the presence of metastasis to the lymph nodes of the groin does not preclude cure in and of itself. Therefore, careful application of radical groin dissection seems indicated in selected cases.

The results of treatment of the rare lesions of the anus

TABLE 12. *Survival Rates by Treatment*

Treatment	Combined squamous cell and basaloid squamous carcinoma		
		Survival rates, %	
	No. of patients	5 yr ± SD, %	10 yr ± SD, %
Combined abdominoperineal resection	80	60.7 ± 5.5	43.3 ± 5.8
Local excision	21	83.3 ± 7.6	77.4 ± 9.1
Radiation	13	18.2 ± 11.6	9.1 ± 8.7
Abdominoperineal resection + radiation	4	—	—
Local excision + radiation	15	71.4 ± 12.1	64.3 ± 12.8
Abdominoperineal resection + groin dissection	10	70.0 ± 14.5	43.8 ± 17.5
No treatment	3	—	—

TABLE 13. *Incidence of Local Recurrence*

Treatment	Squamous cell carcinoma		Basaloid squamous carcinoma		Total	
	No. treated	Recurrences	No. treated	Recurrences	No. treated	Recurrences
Combined abdominoperineal resection	47	10	33	5	80	15*
Local excision	10	4	11	5	21	9*
Radiation	9	1†	4	4†	13	5
Abdominoperineal resection + radiation	2	1	2	0	4	1
Local excision + radiation	9	3	6	1	15	4
Abdominoperineal resection + groin dissection	3	2	7	0	10	2

* The combined abdominoperineal resection was significantly better than local excision: P < 0.04.
† The differences between groups were not significant except for radiation therapy: P < 0.01.

TABLE 14. *Rare Anal Tumors*

Type	No. of patients	Age range, yr	Location	Invasiveness	Grade	Main treatment	No. of 5-yr survivors
Paget's disease	8	44–75	Perianal	In situ (4) Infiltrative (4)	2–4	Local excision Combined abdomino-perineal resection	4/8
Melanoma	7	49–77	Dentate line	Infiltrative		Combined abdomino-perineal resection	0/7
Basal cell carcinoma	6	40–80	Perianal	In situ	1–2	Local excision	5/6
Adenocarcinoma	6	18–53	Perianal (3) Anal canal (3)	Locally invasive	3–4	Combined abdomino-perineal resection	1/6

speak for themselves. Basal cell carcinoma involving the anal skin is similar to the same lesions occurring elsewhere in the integumentary system. As has been the experience of other authors,[13] melanoma is a highly malignant disease proving fatal in all cases. Adenocarcinoma of the anus together with Paget's disease in the dermal region can be cured on occasion. However, Paget's disease that is not related to an underlying carcinoma is curable by wide local excision. It may be necessary to excise these lesions repeatedly as recurrences develop.

Conclusions

Our study of carcinoma of the anus has led us to conclude that squamous cell carcinoma and basaloid squamous carcinoma have similar clinical characteristics. The overall survival rates for patients having anal squamous cell carcinoma and those having basaloid squamous cell carcinoma also are similar. When lymphatic metastasis has occurred, patients with basaloid squamous carcinoma have a more favorable prognosis than those afflicted by squamous cell carcinoma. Perianal squamous carcinoma has an excellent overall survival, which precludes its analysis with anal squamous cell carcinoma.

Combined abdominoperineal resection continues to produce the most favorable results in the treatment of anal carcinoma. In extremely rare anal carcinomas, the histopathology rather than the therapeutic modality dictates the end results in terms of survival.

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DISCUSSION

DR. CLAUDE E. WELCH (Boston, Massachusetts): We see at the Massachusetts General Hospital about one fourth of the number of cases seen at the Mayo Clinic. I am indebted to a previous report by the late Dr. Richard Sweet, and also to a recent unpublished series of statistics by Drs. Ronald Malt and John Welch on this same subject for the few comments that I will make.

I'd like to confine them to three points, one on basaloid versus squamous carcinoma; second, on prophylactic versus therapeutic node dissection; third, on radiation therapy.

So far as basaloid carcinoma is concerned, a number of years ago, when this was first described, it was considered to be a very serious and dangerous lesion. Times have changed, and we are fully in agreement with what Dr. Beahrs has said today, that the ultimate 5-year survival rate is the same for that as it is for squamous carcinoma. On the other hand, it is possible, as his figures have shown, that there may be a greater number of metastases from the basaloid, and perhaps a greater possibility of 5-year survival, even if the nodes are involved with basaloid tumors.

On the second point, of prophylactic versus therapeutic dissection of the regional lymph nodes, we were led to the same conclusion that he was, on the basis that the prophylactic dissection often leads to severe disability. This young patient had a squamous cell carcinoma of the anus (Slide). He had a bilateral, deep and superficial groin dissection. You can see the very marked edema of his thighs, which was much more so when he attempted to work. He was a casualty from the point of view of being a productive citizen. We have, therefore, eschewed prophylactic groin dissections on the basis that they produced more disability rather than less.

The third point that I would like to make concerns the value of x-ray therapy. (Slide) I think that we have not analyzed this as well as we might. I'm sure that all the surgeons here in the audience would agree that this very advanced case is a wonderful one for radiation therapy. On the other hand, I'm not sure that we have given the radiation therapists due process in this controversy. On the other hand, our figures agree exactly with what Dr. Beahrs has said; namely, that the only good results that have been obtained in our series have been by radical combined abdominoperineal resections and that radiation therapy has not been valuable.

However, in the last few years there have been radiation techniques developed that are far different. His series ended in 1970. I hope that he will comment in closing upon any thoughts he may have as to whether or not these new techniques really add anything now for what may be rather small lesions in the perianal area or in the anorectal area, for whom we really hate to do these deforming operations if we can avoid it.

DR. J. SHELTON HORSLEY, III (Charlottesville, Virginia): We reviewed records of our patients over a period of 25 years and found only 26 cases of epidermoid carcinoma of the anus. However, a very industrious surgical resident, Dr. Gerald Golden, looked at the world literature since 1900 and reported over a thousand patients, to which Dr. Welch has just alluded. Our results with epidermoid carcinoma of the anus in Charlottesville are very similar to those of Dr. Beahrs. The review of the literature further confirmed these findings.

There are several points that I would like to make. First of all, it is appalling to see what a long delay occurs before the diagnosis is made. People who have chronic anorectal complaints, and people who have chronic anorectal disease, should be looked at with a high index of suspicion, if one is going to make an early diagnosis of this disease.

Secondly, as regards local excision, only those patients with epidermoid carcinoma which was located at the anal verge, well differentiated, and small (under 2 cm) should be considered for local excision. The primary treatment of the vast majority of these lesions, all of the epidermoid carcinomas located in the anal canal, is abdominoperineal resection with wide margins locally around the lesion.

The third point I would like to make is that we could find no evidence to support prophylactic inguinal node dissection. We advocate that these patients have wide abdominoperineal resection and be followed closely. When we looked at the literature of slightly over a thousand cases, we found that the results were much better in those that had metachronous inguinal metastases than those that were noted to have synchronous groin metastases. Certainly, all patients should be followed closely. If the patient develops palpable inguinal nodes, then, and only then, should he have a groin dissection.

DR. OLIVER H. BEAHRS (Closing discussion): The 204 cases were seen over a 20-year period, from 1950 to 1970, and we were happy to note, in review of these, as already commented upon, that the basaloid lesion proved not to be as serious as previously thought, and surprisingly so when lymph nodal metastases are present. Survival is much better in the basaloid group than the squamous cell group when lymphatic spread has occurred.

As far as x-ray therapy is concerned, the results when used in some of these cases proved not to be satisfactory. In one case, where the lesion was strictly superficial, radiation treatment failed.

There are new techniques of radiation therapy, and, in time, very likely these techniques may lead to the use of this modality in the management of these lesions more frequently than in the past. These lesions are located anatomically where the anal sphincters are, and radiation therapy possibly might lead to incontinence, which would decrease the quality of life, as far as the patient is concerned.

Delay in the diagnosis of these lesions probably is due to the fact that a cancer is not thought of frequently enough as a possible cause of symptoms. Hemorrhoids did coexist in a large number of these patients, and I think many of these lesions at first are misinterpreted clinically as to their underlying character.

There is difficulty in establishing a correct clinical stage of a lesion in this region, as well as in other anatomic areas. If the error is made where an infiltrating lesion is in fact present, rather than a superficial or in situ lesion, the patient's outlook is not as good as it would be otherwise if the lesion is treated conservatively.

Any lesion, as Dr. Horsley implied, that is at the anal verge or in the anal canal should be treated by combined abdominoperineal resection. However, lesions at the anal verge or external to it in the perianal area, as the information presented supports, can be treated by local excision.

Lastly, prophylactic node dissection: It's interesting to note that of 6 patients who had positive nodes at the time that the elective groin dissection was done for the treatment of the primary lesion, 4 survived. It has been said that when positive groin metastases are present, no patient survives. This was certainly true in the patients treated subsequently when clinical lymph nodal metastases were present.

However, the experience in this group of 204 patients is inadequate, really, to establish firmly whether or not a prophylactic node dissection is justified or not; but my personal feeling would be that one should be very cautious in using it, and only in selected cases.