ORIGINAL PROF-693

GALACTOGRAPHY;
DON'T LET ME DIE; THE ART IS DYING

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A B S T R A C T

The fancied and sophisticated investigations always catch the eye of the patient and the mind of a clinician. We are living in an era, which is certainly making headway in the field of medicine. The inventions like the state of art MRI, Computed Tomography and the newer modality of PET scanning certainly do help. For the sake of breast, the screening via mammography still remains the prime investigation but the frequently used method of investigating the ducts i.e; galactography or the commonly called Ductography is these days not the favorite of most of the clinicians. This article is a very limited number study but it might be helpful in reviving the confidence of the clinicians in the art of Galactography.

KEY WORDS Galactography, Ductography, MRI

INTRODUCTION

As the procedure is not very popular, we did only four cases during the last one year in the Department of Radiology Mayo Hospital, Lahore. The investigated cases revealed very significant findings and the results were very helpful for the surgeon. in this article we present our study evaluation of these four cases, which were closely followed with the surgeons.

Luckily all the four cases were positive as far as the radiographic findings were concerned. In the discussion part of this article we will like to stress the need of the procedure, especially in our setup, in which most of the time the patients cant afford the price of some sophisticated investigation.

MATERIAL & METHODS

All the cases referred to the department were from the out patient department and all were referred from the surgical consultants. The cases had a very similar history of the bloody discharge coming from the duct. In all patients only one duct was involved. We used a very thin guide wire to cannulate the discharging duct and then the 24G branula was used to inject the iodinated contrast. An attempt to do the double contrast using air was also made in a couple of cases.

RESULT

Out of the four cases, two cases turned out to be of intra ducal papilloma, second one was of a single dilated duct, another

was a dilated beaded cut probably inflammatory..Both the intraductal papilloma were confirmed after surgery , which the surgeons acknowledged was made very easy due to the Ductography and only the simple ductectomy was performed in these cases.

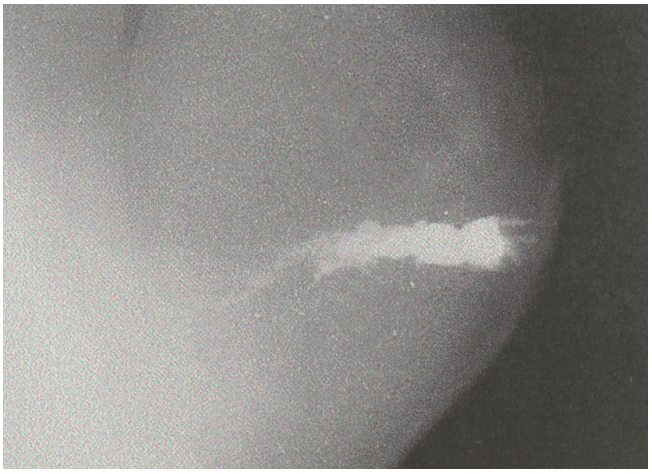

Fig-1. A dilated beaded single duct.

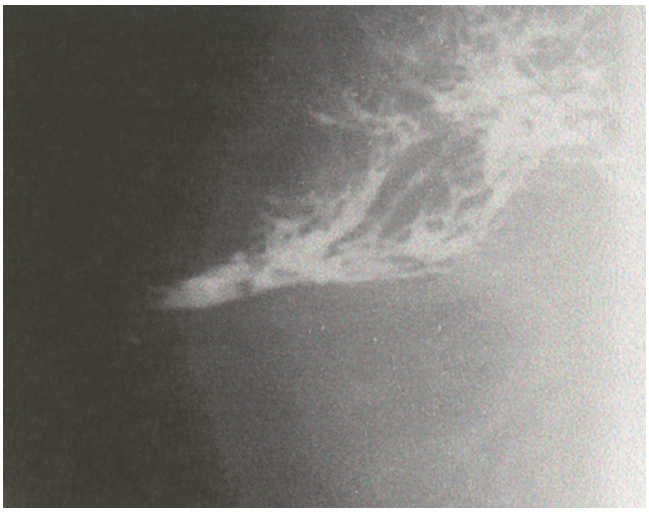

Fig-2. Intraductal Papilloma

DISCUSSION

Galactography or ductography is used by radiologists to evaluate a discharging duct with varying results. Three potential advantages have been suggested for injecting contrast material into the duct. One possible advantage is the evaluation of the entire segment, regardless of which direction its branches take, and the fact that the deep branches can be evaluated. A second advantage is the potential to identify a focal abnormality that can permit either needle biopsy or needle localization and excision, avoiding the need to dissect the entire segment. The third potential benefit is the introduction of a vital dye into the duct so that the surgeon can dissect a colored duct that is more visible at surgery. Anecdotally we have been able to limit the surgery by targeting a solitary filling defect and guiding the limited excision needed to remove a benign papilloma.

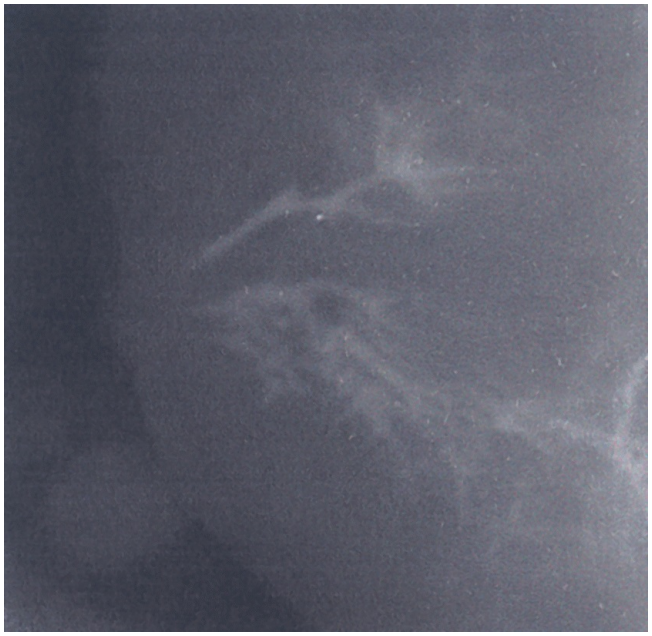

Fig-3. Another patient of Intraductal Papilloma in which two ducts were separately Cannulated.

Normally It must be possible to elicit a discharge from the duct in question at the time of the procedure so that the location of its orifice can be identified. A 24-30-gauge blunt sialogram needle, that is formed with a right angle so that it can be placed into the duct opening and taped in place, is used in most cases. Another method that appears to be successful is using a monofilament line to cannulate the duct and then passing a small guage catheter over the line to permit access to the duct. Standard iodinated contrast material or intravenous use is drawn into a small (2-to-3-cc) syringe and flushed through the connecting tubing and sialogram needle, being careful to avoid any air bubbles because they will make pseudo-filling defects in the duct.

A precontrast image is obtained and then contrast is slowly

introduced. If there is resistance, the needle may be up against the side of the duct and can be carefully repositioned so that contrast flows smoothly into the duct. The injection is terminated if the patient feels any pain (possible extravasation) or fullness (the network is filled) or if the contrast begins to reflux out of the duct. A mammogram is obtained. If the goal is to stain the duct for surgical excision, several drops of a vital dye like methylene blue can be added to the contrast material. The surgeon can then dissect out a blue duct.

Breast cancer can present in several ways. It can be a single- or multiple-filling defects in the contrast. It can cause an abrupt termination of one or more ducts. Extra-vasation from the duct may indicate its disruption by cancer.

The introduction of contrast material into a discharging duct can be used to limit the amount of surgical resection needed to diagnose and treat the cause of a nipple discharge. If a focal abnormality is visible on the duct injection, then it can be targeted for needle localization. This is accomplished by first performing the galactogram and then positioning the breast as for a standard needle localization, choosing the shortest distance to the filling defect in the contrast filled duct.

The most common reason for a filling defect is an intra cystic papilloma. Cancer can cause a single defect or multiple filling defects, or it can cause an abrupt termination of the duct. If an abnormality is found in this fashion, imaging-guided localization or needle biopsy can be performed in exactly the same way as for any lesion, placing a guide through or alongside the filling defect. Instead of having to dissect out an entire duct network, the surgeon needs only to remove the lesion seen on the galactogram.

Five percent of solitary duct discharges are due to cancer, and most believe these discharges should be investigated surgically. A filling defect delineated by galactography can be targeted and a needle biopsy performed. These lesions (filling defects) can be needle localized, just as with any other lesion evident by mammography, and the lesion can be excised. limiting the amount of surgery needed if it proves to be a papilloma.

On rare occasions, a solitary duct or network may appear dilated and form a tubular or branching structure. A solitary dilated duct had been described as an indicator of cancer. This, however, is an extremely unusual event, and the reported cases are anecdotal. The usual cause of solitary duct dilatation is idiopathic duct ectasia.

An intraductal papilloma can cause duct dilatation . The mechanism is not clear. It has been suggested that the papilloma obstructs the duct and the buildup of fluid causes the duct to dilate. This does not make physiologic sense. It would imply that the ducts usually secrete fluid to be blocked. If this were the only mechanism, then fluid would normally have to drain from the nipple such that the drainage could be blocked by the papilloma. This is not the case, because nipple discharge is unusual. Furthermore, the ducts are generally blocked by keratin plugs in the nipple orifices. If it was blockage normal secretions, then this would lead to diffuse ductal dilatation in most women.

In our experience, when a single dilated duct harbors an intraductal papilloma, the tumor is usually distal in the duct (relative to the lobule) but is rarely obstructing it. This suggests that the papilloma itself probably is the cause of, or related to, increased secretion that is not balanced by resorption, leading to dilatation of the widest portion of the duct according to Laplace's law.

When a dilated duct is found in association with cancer, the dilated duct is almost always accompanied by a discharge, or other signs, such as calcifications or an associated mass, are present. Because a solitary dilated duct is so rarely caused by cancer, if there are no associated signs or symptoms and there are no previous mammograms to determine the chronicity of the finding, these patients are placed in a short-interval follow-up program with mammography at 6- month intervals. If there is no change after 2 years, we return the patient to annual screening. Cancer in this setting is so rare that short-interval follow-up for these women may ultimately prove to be unnecessary;

Because duct dilatation is probably not due to obstruction, cancers as well as benign lesions associated with solitary, dilated ducts are, in fact, usually not at the nipple but further back in the duct. If biopsy is undertaken, it may be necessary to excise the deep segments of the duct. If the dilatation is associated with a discharge, galactography may help to evaluate the deeper segments.

CONCLUSION

You decide for your self, our experience and suggestion is that Galactography should still be the investigation of choice for the single discharging duct.

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