Focusing on Seborrheic Keratoses

FGFR3 and PIK3CA Mutations in Stucco Keratosis and Dermatosis Papulosa Nigra.
Hafner C, Landthaler M, et al:
Br J Dermatol 2010; 162 (March): 508-512

Seborrheic keratoses, stucco keratosis, and dermatosis papulosa nigra probably have equivalent mutations in their pathogenesis.

Background: Seborrheic keratoses are so mundane and so common that they might well just be accepted as an occupational hazard of being human. But patients commonly ask, "Why am I getting these? Don't tell me it's because I'm getting old." Prior reports have shown activating point mutations of the fibroblast growth factor receptor 3 (FGFR3) gene and the catalytic p110 subunit of class 1 phosphatidylinositol 3-kinase (PIK3CA) gene in the pathogenesis of seborrheic keratoses and solar lentigos. These mutations occur at several known gene hotspots.

Objective: To determine if FGFR3 and PIK3CA mutations occur in stucco keratosis (STK) and dermatosis papulosa nigra (DPN), which are felt to be two seborrheic keratosis variants.

Participants: 7 patients with STK or DPN and having lesions removed for other indications were included.

Methods: The authors looked at 11 previously described FGFR3 and 5 PIK3CA hotspot mutations in 5 STK and 2 DPN samples confirmed from histopathological examination, each from 7 separate patients. The authors manually microdissected the tissue under an inverted microscope to obtain at least 70% to 80% keratinocytes of the STK and DPN lesions, isolated the DNA, and identified the mutations using a standardized commercial assay.

Results: 3 of 5 STK samples revealed a PIK3CA mutation, but no FGFR3 mutation was found. The mutations found are known to be highly oncogenic. Both DPN samples harbored an FGFR3 mutation but no PIK3CA mutation. The mutations found, when occurring in the germline, cause thanatophoric dysplasia, a lethal skeletal dysplasia syndrome. Control tissues were available from 3 patients and did not show PIK3CA or FGFR3 mutations confirming a strong genotype–phenotype correlation between the observed mutation and the lesion.

Conclusions: FGFR3 and PIK3CA mutations are involved in the pathogenesis of STK and DPN, and those mutations provide further evidence that both are seborrheic keratosis variants.

Reviewer’s Comments: Although this study looked at a small number of lesions, it supports the notion that somatic mutations of at least these genes are the explanation for stucco and seborrheic keratoses. Those same mutations occur in a number of internal malignancies, including bladder cancer, colorectal cancer, breast cancer, and multiple myeloma. Therefore, I suppose we are pretty lucky that seborrheic keratoses stay benign. Obviously, studies like this create more questions than they answer, like why are these lesions benign, why do these tend to run in families given the absence of germline heterozygosity, and what cell signaling is making these lesion pop up. Ultimately, the basic science understanding of what is happening in seborrheic keratoses may lead to a decent pharmacotherapy, which will be big bucks for whatever drug company can produce a treatment at a reasonable cost. (Reviewer—David L. Swanson, MD).

© 2010, Oakstone Medical Publishing

Keywords: Seborrheic Keratosis, Stucco Keratosis, Genomics, FGFR3, PIK3CA

Print Tag: Refer to original journal article
Incomplete biopsies of a cutaneous melanoma are more likely to give misdiagnosis or show residual disease at the time of excision.

**Objective:** To compare what the authors defined initially as partial and excisional biopsy techniques in the accuracy of histopathologic diagnosis and microstaging of cutaneous melanoma.

**Design:** Prospective case series.

**Participants:** 2470 consecutive suspected melanoma cases referred for excision from 1995 to 2006.

**Methods:** The authors reviewed the initial biopsy type (complete or partial) as well as the initial histopathology findings and compared those findings to the assessment after definitive excision. For shave biopsy, no distinction is made between the superficial and the deeper "saucerization" shave biopsy. Punch or shave biopsies were considered partial except in instances where no residual melanoma was identifiable microscopically on definitive excision. Based on those latter findings, the initial impression was categorized as correct, false-negative misdiagnosis (including misdiagnosis with an adverse outcome), or false-positive misdiagnosis. An adverse outcome was defined as the persistence or progression of primary disease or development of metastasis occurring prior to the correct diagnosis being made. Correct diagnoses were assessed for microstaging accuracy compared to definitive excision.

**Results:** The authors reported an increased odds ratio of histopathologic misdiagnosis of 17 for punch biopsy and 3 for shave biopsy compared with an excisional biopsy. Using a punch biopsy was associated with increased odds of misdiagnosis with an adverse outcome (odds ratio, 20); however, that increased "adverse outcome" was persistence of disease. Use of punch biopsy had an odds ratio of 5 for understaging, and shave biopsy similarly had an odds ratio of 2.

**Conclusions:** Histopathologic misdiagnosis is more common for melanomas that have been assessed with punch and shave biopsy than with excisional biopsy, with an increased likelihood of adverse events and inadequate microstaging.

**Reviewer's Comments:** The article's methods and results are confusing and obfuscating. The conclusion from their data should be that incomplete biopsies are more likely to give misdiagnosis or show residual disease at the time of excision. Forget the part about punches and shaves versus excisions. (Reviewer-David L. Swanson, MD).

© 2010, Oakstone Medical Publishing

Keywords: Biopsy, Nevus, Melanoma

Print Tag: Refer to original journal article
Should D2-40 Be Considered as a Complementary Immunostain?

*D2-40, A Novel Immunohistochemical Marker in Differentiating Dermatofibroma From Dermatofibrosarcoma Protuberans.*

Bandarchi B, Ma L, et al:

*Mod Pathol* 2010; 23 (March): 434-438

**D2-40** is a sensitive marker for dermatofibromas and should be considered as a complementary immunostain with factor XIIIa and CD34 to aid in the differentiation between dermatofibroma and dermatofibrosarcoma protuberans.

**Background:** The histopathologic distinction between dermatofibromas and dermatofibrosarcoma protuberans may be challenging when dealing with superficial biopsies or unusual histopathological variants of either tumor. Immunohistochemical stains have assisted in the differentiation, usually employing a panel of stains that includes CD34 and factor XIIIa. However, there may be histopathological overlap with these 2 latter stains. D2-40 is a novel monoclonal antibody to a sialoglycoprotein found in lymphatic endothelium and a growing list of other epithelial and nonepithelial cells. Its reactivity pattern has not been previously reported in cases of dermatofibromas and dermatofibrosarcoma protuberans.

**Objective:** To investigate the immunostaining pattern of D2-40 with cases of dermatofibroma and dermatofibrosarcoma protuberans. **Design:** Retrospective study.

**Methods:** 56 cases of dermatofibromas and 29 cases of dermatofibrosarcoma protuberans were collected. Immunohistochemical staining for CD34, factor XIIIa, and D2-40 were performed.

**Results:** Dermatofibromas, including cellular dermatofibromas, showed strong and diffuse cytoplasmic staining for D2-40 and factor XIIIa in all cases and were all negative for CD34. All cases of dermatofibrosarcoma protuberans were negative for D2-40 and factor XIIIa and showed strong and diffuse immunopositivity for CD34. A cellular dermatofibroma showed focal CD34 positivity, but this focus was also negative for D2-40 and factor XIIIa.

**Conclusions:** D2-40 is a sensitive marker for dermatofibromas and should be considered as a complementary immunostain with factor XIIIa and CD34 to aid in the differentiation between dermatofibromas and dermatofibrosarcoma protuberans.

**Reviewer’s Comments:** The histopathologic distinction between dermatofibroma and dermatofibrosarcoma protuberans remains a difficult problem for histopathologists. Although there are well-defined histopathologic criteria, several variants of both diseases may show histopathologic and immunohistochemical overlap. Immunohistochemical studies have greatly assisted, and this paper serves as an important addition. I was surprised by their results of 100% sensitivity for factor XIIIa staining for dermatofibromas and 100% sensitivity for CD34 for dermatofibrosarcoma protuberans. My experience and the literature do not always have such a clear cut distinction in immunostaining. It may have been interesting for the authors to have included additional morphological variants of both tumors such as a myxoid variant, which may be as diagnostically challenging as the cellular variant. It also may have been helpful to compare the immunostaining pattern in examples of superficial biopsies to the definitive excision to see if there were any staining differences, especially since most diagnostic difficulties in separating dermatofibromas from dermatofibrosarcoma protuberans arise with superficial biopsies. The utility of D2-40 continues to expand, and I look forward to using this as a complementary stain along with factor XIIIa and CD34. (Reviewer-Paul K. Shitabata, MD).

© 2010, Oakstone Medical Publishing

Keywords: Dermatofibroma, Dermatofibrosarcoma Protuberans, D2-40, Immunohistochemistry

Print Tag: Refer to original journal article
Acute hemorrhagic edema of infancy is considered the infantile form of Henoch-Schönlein purpura.

**Henoch-Schönlein Purpura (HSP):** HSP affects young children. Seventy-five percent of patients are aged <10 years. Manifestations include arthritis, abdominal pain, and palpable purpura. Histologic findings include leukocytoclastic vasculitis, and direct immunofluorescence shows perivascular fibrinogen, C3, and IgA. The overall prognosis of HSP is excellent, with most cases resolving within 4 to 6 weeks. Approximately 30% of patients with HSP develop renal involvement. Eighty percent of patients have proteinuria or hematuria only, but 20% develop nephritic or nephrotic syndrome. Acute hemorrhagic edema is considered the infantile form of HSP. 

**Kawasaki Disease (KD):** KD is a self-limited systemic vasculitis that affects mainly the coronary arteries. The etiology is unknown. The incidence is highest in Japan and Korea and in Asian-American children in the United States. Approximately 80% of patients with KD are aged <5 years. The clinical picture is characterized by fever, unilateral cervical lymphadenopathy, conjunctivitis, mucositis, hand/feet edema, and polymorphous rash. Approximately 20% of patients develop coronary artery aneurysms, and up to 2% die of cardiac complications.

**Polyarteritis Nodosa (PAN):** This condition is rare in children. It affects males aged 9 to 11 years. Clinically, PAN presents with malaise, fever, arthralgias, livedo reticularis, subcutaneous nodules, renovascular hypertension, and cardiovascular and neurologic symptoms. Diagnosis is made with skin biopsy demonstrating necrotizing arteritis, and MRI or angiography shows narrowing and dilatation of arteries.

**Takayasu Arteritis:** Takayasu arteritis and the primary central nervous system vasculitis are rare in children and do not exhibit cutaneous involvement.

**Reviewer's Comments:** This is a nice overview of the etiology, pathophysiology, epidemiology, and clinical features of vasculitis in children. As in adults, there is a considerable degree of overlap between the various vasculitic syndromes in childhood. One recommended approach to children with unexplained systemic illness that involves the skin, kidney, and/or lung is as follows. First, try to rule out identifiable causes such as drugs, infections, or neoplasms. Second, check a urine analysis and erythrocyte sedimentation rate (ESR). If the urine analysis is abnormal and the ESR is elevated, think of HSP, PAN, or Wegener’s granulomatosis and order antineutrophil cytoplasmic antibody (ANCA). HSP and PAN are c-ANCA negative, while Wegener’s granulomatosis is c-ANCA positive. On the other hand, if the urine analysis is negative but the ESR is elevated, the potential diagnoses include KD and Takayasu arteritis, which are not difficult to differentiate clinically. (Reviewer-Carlos Garcia, MD).

© 2010, Oakstone Medical Publishing

Keywords: Henoch-Schönlein Purpura, Kawasaki Disease, Polyarteritis Nodosa

Print Tag: Refer to original journal article
ANCA-associated vasculitis shares a clinical presentation characterized by fever, malaise, arthralgias, lung and kidney involvement, cutaneous small vessel vasculitis, and positive ANCA.

**Objective:** To perform a literature review to define risk factors for treatment failure and relapse in Wegener's granulomatosis, Churg-Strauss syndrome, and microscopic polyangiitis.

**Background:** These 3 entities are characterized by small-vessel vasculitis, involvement of the lung, kidney, and skin, mononeuritis multiplex, similar therapeutic responses, and antineutrophil cytoplasmic antibody (ANCA) positivity. While Wegener's granulomatosis is c-ANCA positive, Churg-Strauss syndrome and microscopic polyangiitis are p-ANCA positive. **Treatment:** Recommended therapy for ANCA-associated vasculitis includes a combination of cyclophosphamide and prednisone. A Cochrane database review found insufficient evidence to support the use of adjuvant intravenous immunoglobulin. Cyclophosphamide dose is 2 mg/kg per day, with a dose reduction for patients with renal insufficiency. Prednisone is given at 1 mg/kg per day tapered slowly over 1 year. Approximately 90% of patients respond, and at least 75% enter remission. The following factors have been linked to treatment resistance in ANCA-associated vasculitis: older age at onset, African-American race, female sex, elevated creatinine level, ANCA positivity, retro-orbital involvement, and endobronchial disease. Also, microscopic polyangiitis is less responsive than Wegener's granulomatosis or Churg-Strauss syndrome. **Relapse:** Relapses are seen in 50% of patients with Wegener's granulomatosis and in 30% of those with Churg-Strauss syndrome and microscopic polyangiitis. Factors associated with relapse include a cumulative dose of cyclophosphamide <10 g during the first 6 months of therapy, withdrawal of steroids within the first year of therapy, upper and lower respiratory lung involvement, HLA-DR antigen, proteinase 3 (PR3)-ANCA, nasal carriage of *Staphylococcus aureus*, and low levels of interleukin-10. **Reviewer's Comments:** The major target antigens of ANCA are myeloperoxidase (MPO) and PR3. MPO-ANCA is related to Churg-Strauss syndrome and microscopic polyangiitis, and PR3-ANCA is the marker antibody in Wegener's granulomatosis. Clinically, Wegener's granulomatosis, Churg-Strauss syndrome, and microscopic polyangiitis usually present with systemic symptoms, arthralgias, lung and kidney involvement, and leukocytoclastic vasculitis. Some patients may also exhibit livedo and cutaneous ulcers. Some clinical features that suggest specific entities include chronic sinusitis and nasopharyngeal ulcerations or masses in Wegener's granulomatosis, asthma and eosinophilia in Churg-Strauss syndrome, and an absence of granuloma formation and sparing of the upper respiratory tract in microscopic polyangiitis. ANCA-associated vasculitis is rare in children but may occur. In particular, Wegener's granulomatosis may have an atypical presentation and be confused clinically with Henoch-Schönlein purpura. Lack of IgA deposits on direct immunofluorescence and development of pulmonary symptoms should prompt a search for ANCAAs in order to make the correct diagnosis. In additional, recent data suggest that disorders in the control of inflammation, such as those that underlie familial Mediterranean fever and other autoinflammatory diseases, may predispose to vasculitis in children. (Reviewer-Carlos Garcia, MD).

© 2010, Oakstone Medical Publishing

Keywords: Microscopic Polyangiitis, Wegener Granulomatosis, Churg-Strauss Syndrome

Print Tag: Refer to original journal article
Development of antinuclear antibodies and anti-double-stranded DNA antibodies is associated with treatment failure in patients with psoriasis.

**Objective:** To correlate the development of anti-nuclear antibodies (ANA) and anti–double-stranded DNA (anti-dsDNA) antibodies with the failure to respond to anti-tumor necrosis factor (TNF) therapy for psoriasis.

**Participants/Methods:** Of 97 patients included, 60 were still on their first agent, 22 had failed 1 agent and were on their second agent, and 9 had failed 2 agents and were on their third agent. Six of 97 patients had positive ANA before treatment, but none were anti-dsDNA positive.

**Results:** 31 patients (32%) developed ANA after a mean of 19 months. Seventeen percent of patients developed ANA during use of the first agent, 54% after 1 failure, 78% after 2 failures, and 83% after failing all 3 agents. Fifteen patients (15%) developed anti-dsDNA after a mean of 24.4 months. Two percent of patients developed anti-dsDNA during use of the first agent, 27% after 1 failure, 33% after 2 failures, and 83% of those after failing all 3 treatments. The 6 patients with positive ANA before treatment responded to the first agent; 4 of these patients became ANA negative.

**Conclusions:** “The development of ANA and anti-dsDNA antibodies on anti-TNF treatment may act as a marker of forthcoming treatment failure.”

**Reviewer's Comments:** It is clear that some patients with psoriasis fail to respond adequately to TNF inhibitors, but the reasons for these failures have not been clearly elucidated. According to this paper, one important reason may be the development of auto-antibodies. In this series, the auto-antibody positivity correlated very clearly with a lack of response to 1, 2, or even 3 agents. Curiously, a positive ANA before treatment did not affect therapeutic response. Although the development of antibodies with the use of anti-TNF therapy is a well-known phenomenon, the significance of such antibodies is still debated. Both auto-antibodies and anti-drug antibodies have been documented. In some studies, both etanercept and infliximab have transiently induced ANA and anti-DNA antibodies in up to 50% to 78% of patients, respectively; these antibodies seem to be different from the typical lupus-associated ones. Nevertheless, a recent editorial explained that the presence of antibodies does not necessarily lead to loss of response as many patients maintain control of their disease in spite of circulating antibodies. Until the issue is resolved, it is advisable to lower the production of antibodies by providing continuous compared to intermittent biologic therapy and/or adding methotrexate. (Reviewer-Carlos Garcia, MD).

© 2010, Oakstone Medical Publishing

Keywords: TNF Inhibitor Therapy, Antibodies

Print Tag: Refer to original journal article
The best match for nasal skin reconstruction is other nasal skin.

**Background:** For years, many have advocated certain donor sites as the best source of tissue for full thickness grafting of the nose. These recommendations have been until now unsupported by scientific evidence.

**Objective:** To examine the histological features of the skin of the various nasal subunits and to compare these with skin from common facial donor sites used in reconstructing nasal defects.

**Methods:** 25 facial subunits from 4 Caucasian male cadavers aged 65 to 88 years were biopsied. Three metrics were studied: epidermal thickness, dermal thickness, and density of pilosebaceous subunits.

**Results:** There was no difference in terms of epidermal thickness among the different subunits. For dermal thickness, the closest match for nasal skin is an area of adjacent nasal skin. Looking further away, the helical root, helical rim, and pre-auricular area are closest. For pilosebaceous density, another part of the nose is again the closest match. More distally, the helical root, pre-auricular area, and lateral forehead are the best matches.

**Conclusions:** For nasal reconstruction, closures that use adjacent skin, such as flaps or grafts, are likely to have the best match.

**Reviewer's Comments:** This study supports the anecdotal recommendations that have been advocated regarding donor sites for the past several decades. However, the number of cadavers studied was very small. Also, the conchal bowl, which many feel is the best match for nasal tip outside of other nasal skin, was not studied. It appears that pre-auricular skin may be the best matched, most convenient source of non-nasal skin source for nasal reconstruction. Now that we know which skin is the most similar, the next question to answer is, “does donor site make a significant difference in appearance following healing?” I switched from conchal bowl donor sites to post-auricular ones some years ago due to the unacceptable incidence of chondritis. I have not noticed a significant difference in outcomes despite the supposedly poorer donor match. This is a topic I hope to study myself in the near future. (Reviewer-Daniel Eisen, MD).

© 2010, Oakstone Medical Publishing

Keywords: Skin Graft, Histology, Donor Site, Dermal Thickness, Pilosebaceous Density

Print Tag: Refer to original journal article
PET-CT in Early Lymph Node Disease Has Low Sensitivity in Detecting Metastasis

Background: Sentinel lymph node (SLN) biopsy is a surgical tool that provides valuable prognostic information in patients with malignant melanomas >1.0 mm in Breslow depth. It is still debatable whether treatment of patients with positive SLN would lead to an improvement in the overall survival rates, but SLN biopsy does provide prognostic value, although it is an invasive surgical procedure with associated risks. PET-CT is a noninvasive test that is now becoming readily available, has utility in late-stage disease, and is currently not indicated for prognostic or diagnostic purposes in asymptomatic patients with early stage but high-risk malignant melanoma.

Objective: To compare SLN biopsy and PET-CT in patients with early stage malignant melanoma.

Design/Participants: In this study, the authors performed a retrospective study on 121 patients with malignant melanomas with a Breslow depth of >1.0 mm who underwent SLN biopsy. All patients were offered PET-CT scans, and 61 of these patients received a PET-CT prior to SLN biopsy.

Results: Of 61 cases, the tumors were classified as follows: 44.3% nodular melanoma (27 cases), 2.8% superficial spreading melanoma (20 cases), 9.8% acrolentiginous melanoma (6 cases), 3.3% desmoplastic melanoma (2 cases), and 1.6% lentigo maligna melanoma (1 case). Tumor thickness varied from 1.0 to 8.0 mm, with a mean of 2.62 mm and a median of 2.0 mm; 15% had tumor ulceration. In total, 23% (14 patients) had a positive SLN and 17 positive nodes were identified in these patients. For stage I tumors, 11.5% (7 patients) had a positive sentinel node (1 stage Ia and 6 stage Ib). For stage II tumors, 7 patients (11.5%) were SLN positive. Patients with a positive sentinel node had a median tumor thickness of 2.1 mm versus 2.0 mm for those with negative nodes. The PET-CT detected just 1 of the 17 positive lymph nodes, and therefore yielded a sensitivity of 5.9%.

Conclusions: PET-CT provides very low sensitivity for nodal staging in patients with early stage melanomas, and yields low detection of early lymph node disease. SLN biopsy continues to be the standard prognostic indicator in patients with early stage but high-risk melanomas.

Reviewer's Comments: This study reaffirms that PET-CT scans do not offer any additional prognostic information in patients with asymptomatic but high-risk melanomas and cannot detect early lymph node disease in patients with melanoma. SLN biopsy remains the standard for staging and determining adjuvant therapies in patients with malignant melanomas and a Breslow depth of >1.0 mm. (Reviewer-Amy Cheng, MD).

© 2010, Oakstone Medical Publishing

Keywords: PET-CT Scanning, Local Lymph Node Metastasis

Print Tag: Refer to original journal article
Does Platelet Activation Play a Role in Psoriasis?

Platelet Activation in Patients With Psoriasis: Increased Plasma Levels of Platelet-Derived Microparticles and Soluble P-Selectin.

Tamagawa-Mineoka R, Katoh N, Kishimoto S:


Psoriasis is associated with markers of platelet activation, ie, platelet-derived microparticles and soluble P-selectin.

**Background:** A small but growing body of evidence suggests that inflammatory diseases affecting the skin, airways, joints, and gastrointestinal tract are associated with markers of platelet activation. Platelets release platelet-derived microparticles (PDMPs) and soluble P-selectin into the plasma when activated, and plasma levels of these substances can be used as biomarkers for disease involving platelet activation.

**Objective:** To correlate blood levels of platelet activation with skin disease in patients with psoriasis.

**Participants:** 21 patients with psoriasis and 22 healthy controls.

**Methods:** The authors compared plasma levels of PDMPs and soluble P-selectin. The relationship between platelet activation markers and the Psoriasis Area and Severity Index (PASI) score was investigated. Platelet markers were compared after skin disease improved following topical psoriasis treatment.

**Results:** Blood platelets counts were similar in psoriasis patients and controls. PDMPs and soluble P-selectin were significantly increased in psoriasis patients relative to controls, and levels of platelet activation markers correlated with the PASI score. However, the increase of both markers was less than 2-fold, and there was significant overlap in platelet activation markers between groups. In 4 patients whose psoriasis improved dramatically following topical therapy, markers of platelet activation also significantly decreased.

**Conclusions:** Platelets are activated in psoriasis, and PDMPs and P-selectin correlate with disease severity.

**Reviewer’s Comments:** Platelet activation is not unique to psoriasis but appears to be a common association with several inflammatory diseases affecting various organs. Retrospective studies have demonstrated a robust and independent association between atherosclerotic vascular disease and psoriasis. The basis for this association is likely to be multifactorial, but platelet activation may be a common link. Further studies are necessary to determine if platelet activation contributes to formation of psoriatic plaques or the link between atherosclerosis and psoriasis. (Reviewer-Michael S. Kolodney, MD, PhD).

© 2010, Oakstone Medical Publishing

Keywords: Platelet Activation, P-Selectin

Print Tag: Refer to original journal article
Malignancy is more common in dermatomyositis that in other inflammatory myopathies and usually develops within 1 year of diagnosis.

**Background:** Previous studies have suggested that dermatomyositis (DM) and, to a lesser extent, other inflammatory myopathies are associated with malignancy. However, it has been argued that increased surveillance for malignancy at the time of diagnosis may account for some or all of the increased diagnoses of cancer. It is also unclear how aggressively one should screen for malignancy in a patient diagnosed with DM.

**Objective:** To investigate the temporal association between inflammatory myopathies and malignancy.

**Methods:** The authors conducted a retrospective review of all patients treated at Dartmouth-Hitchcock Medical Center between 1985 and 2008. They identified all patients with codes for idiopathic inflammatory myopathies (IIM) and verified the diagnosis through chart review. IIMs included dermatomyositis, polymyositis, inclusion body myositis, and overlap syndromes. The authors then determined which of these patients also received a diagnosis of cancer at Dartmouth-Hitchcock Medical Center (excluding non-melanoma skin cancer) in the period from 2 years preceding diagnosis of IIM until 3 years after diagnosis.

**Results:** The authors identified 198 subjects with IIM, which was validated by chart review. Of these 198 subjects, 32 were diagnosed with cancer within the 5-year window. Of 61 patients with DM, 24 were diagnosed with cancer. The occurrence of cancer in DM was 10-fold greater than in the other IIMs. Of cancers associated with DM, 75% were diagnosed within 1 year of DM diagnosis. In contrast to DM, polymyositis did not show a significant association with malignancy. The most common cancer types were breast, lung, pancreas, and colon.

**Conclusions:** DM is associated with malignancy, mainly occurring within a 5-year window of the initial diagnosis.

**Reviewer's Comments:** This paper provides clinically useful data on caring for patients with dermatomyositis and provides a time window for the well-known association between DM and malignancy. The 24 patients with DM (of 61) who were diagnosed with cancer in the 5-year window may be an underestimate, as some patients may have been diagnosed with cancer at outside hospitals or clinics. In an adult patient with new-onset DM, I typically perform age-appropriate cancer screenings as well as a full-body CT scan. If no malignancy is discovered, I continue to monitor the patient with age-appropriate cancer screenings. The finding from this study, that most DM-associated cancers present with 1 year of diagnosis, is reassuring and suggests that additional screening CT scans are not necessary if the initial workup is negative. (Reviewer-Michael S. Kolodney, MD, PhD).

© 2010, Oakstone Medical Publishing

Keywords: Dermatomyositis, Polymyositis, Malignancy

Print Tag: Refer to original journal article