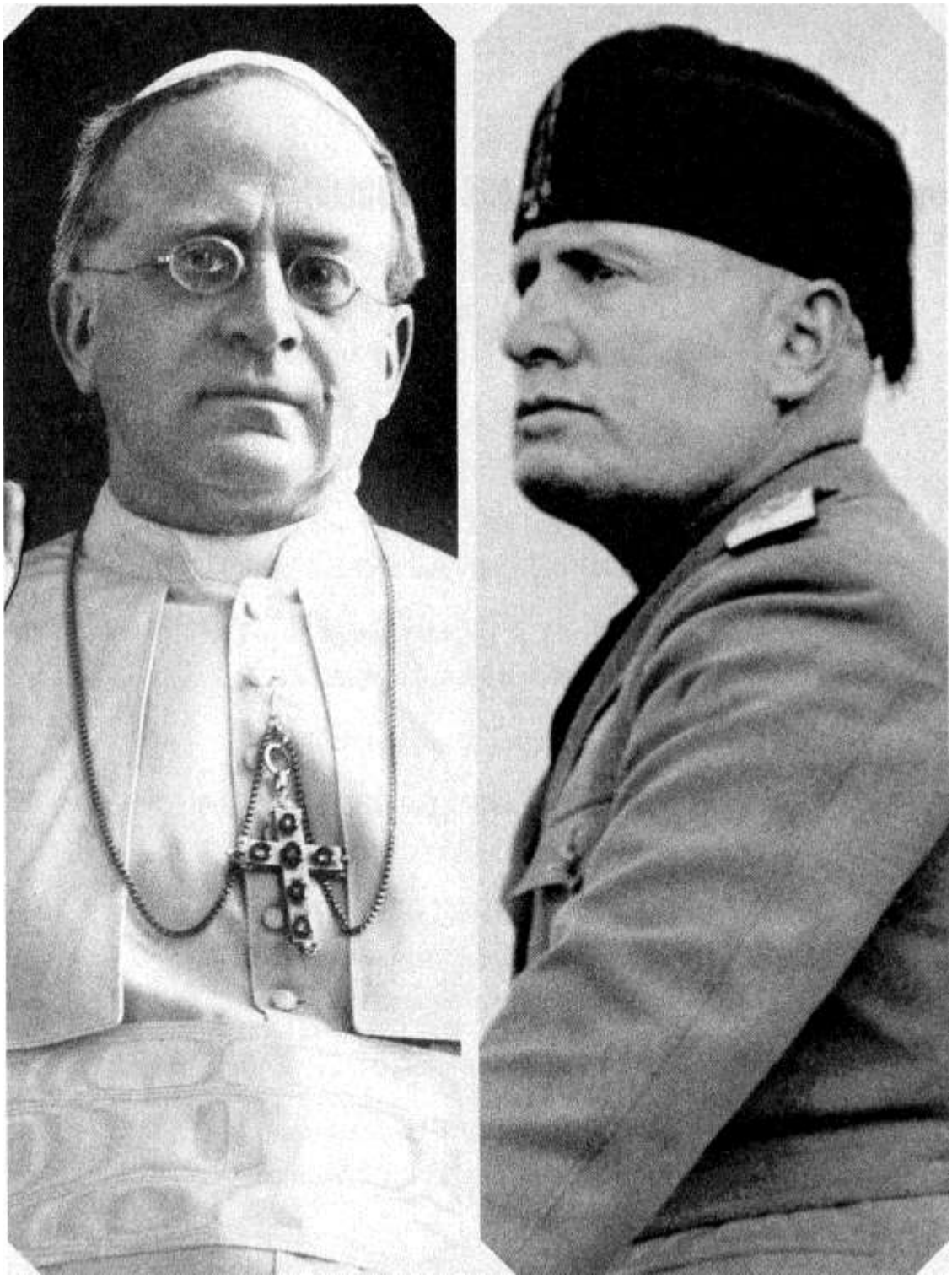
THE NORTHERN HOSPITAL

GIANT CELL (TEMPORAL) ARTERITIS



Pope Pius XI (Archivi Alinari, Firenze) and Benito Mussolini, (Archivo Bruni / Gestione Archivi Alinari), early-mid 1920s.

Ailing, elderly, and having barely survived circulatory failure the previous year, Pope Pius XI begged God to grant him a few more days. He sat at his desk in his third-floor Vatican office in his white robe, a cane resting against the wall nearby. The rusted compass and barometer from his climbs to Italy's highest Alpine peaks lay on one side, a reminder of days long past. An old tuning fork remained in a draw. It had been years since he had taken it out. Proud of his singing voice and eager that his sense of pitch not desert him, he had practiced when he could, but only when he was sure none was listening. Now, knowing the end was near, he went through each draw, making sure his papers were in order.

For years the Pope had enjoyed good health, and observers had marveled at his punishing schedule. He had insisted on knowing every detail of Vatican affairs and deciding everything of any significance. Now every day was a challenge, every step caused pain. At night, unable to sleep, he lay awake, his legs throbbing from varicose veins, his asthma making breathing a struggle, and worst of all, plagued by the feeling that something had gone terribly wrong. In the daytime, light streamed into his office through the three windows that that overlooked St. Peter's square. But now it was night, and his small desk lamp cast a yellow glow over the sheets in front of him. The Lord, he thought, had kept him alive for a reason. He was God's vicar on earth. He could not die before saying what had to be said.

The Pope summoned all of Italy's bishops to Rome to hear his final message. The gathering was to be held in a week and a half in St. Peter's Basilica on February 11, 1939. It would mark the tenth anniversary of the Lateran Accords, the historic agreement that Pius XI had struck with Italy's dictator, Mussolini, ending decades of hostility between Italy and the Roman Catholic Church. With that agreement the separation of Church and state that had marked modern Italy from its founding sixty-eight years earlier came to an end. A new era began, the Church a willing partner of Mussolini's Fascist government.

Seventeen years earlier, in 1922, Achille Ratti, freshly appointed cardinal, had been the surprising choice to succeed Pope Benedict XV. He took the name Pius XI. Late that same year, amid widespread violence, Benito Mussolini, the thirty-nine year old Fascist leader, became Italy's prime minister. Since then the two men had come to depend on each other. The dictator relied on the Pope to ensure Catholic support for his regime, providing much needed moral legitimacy. The pope counted on Mussolini to help him restore the Church's power in Italy. Now, with pen in hand, thinking back over these years, Pius felt a deep regret. He had allowed himself to be led astray. Mussolini seemed to think he was a god himself, and he had embraced Hitler, a man the pope despised for undermining the Church in Germany and championing a pagan religion of his own. The painful scene Rome had witnessed the previous spring haunted him: a sea of red and black Nazi flags had blanketed the city, as the German Fuhrer passed through its historic streets in triumphal procession.

Two months after Hitler's visit, Mussolini shocked the world by proclaiming that Italians were a pure, superior race. Although Jews had lived in Rome since before the time of Jesus, they were now officially deemed a noxious foreign people. The Pope was horrified. Why, he asked in a public audience, was Italy's leader so eager to imitate the Fuhrer?. The question enraged Mussolini, for nothing upset him more than being called Hitler's

stooge. The men of the pope's inner circle rushed to repair the damage. More comfortable with authoritarian regimes than with democracies, and fearful of losing the many privileges that Mussolini had granted the Church; they thought the Pope was getting reckless in his old age. He had already alienated the Nazi leaders; now, they worried, he was putting the Vatican's ties to Mussolini's Fascist regime at risk.

At his headquarters on the other side of Rome's Tiber River, Mussolini raged against the Pope. If Italians still went to mass, it was only because he had told them to. If it weren't for him, anticlerics would be running wild through Italy's streets, sacking churches and forcing castor oil down the throats of cowering priests. If every classroom and courtroom had a crucifix on its wall, if priests taught religion in all of Italy's public schools, it was because Mussolini had ordered it. If generous state funds were being used to support the Church, it was because he had willed it, all in a effort to craft a mutually beneficial understanding between his Fascist government and the Vatican. Pius stayed up late on the night of January 31, as he had the previous night, drafting his remarks for the gathering of bishops. The once-hearty, barrel-chested "mountaineer" pope was emaciated, his formerly full face deeply wrinkled and shrunken. But it was clear to all who saw him how determined he was to give that speech. He did not want to die before warning the bishops that fascist spies were everywhere, including the halls of the Church. It would be his last chance to denounce Mussolini's embrace of Nazi racism.

In the week remaining before the speech, however, the pope's remaining reserve of strength began to fail him. Unable to stand, he took to bed. Cardinal Eugenio Pacelli, who as secretary of state was second-in - command at the Vatican, begged him to postpone the gathering. The Pope would not hear of it and ordered the Vatican daily newspaper to report that he was in good health. On February 8, worried that he might not be strong enough to give the speech in three day's time, he ordered the Vatican printing office to make a copy of it for each bishop. The following night his condition worsened, and in the early morning hours of February 10, his breathing became more laboured. Attendants, careful not to disturb the white skullcap on his head, fastened an oxygen mask over his mouth. At four A.M they roused Cardinal Pacelli. The cardinal rushed to the Pope's bedside, then fell to his knees to pray. His eyes reddened with tears. Lying on his simple iron bed, rapidly fading, Pius XI soon took his last feeble breath. God had not granted his final request. The bishops would see him next not in St Peter's Basilica but in the nearby Sistine Chapel where, on the afternoon of February 10, his ruined body was placed on a raised platform. To those who had known him in his prime, he was barely recognizable. It was as if someone else lay there, under Michelangelo's frescoed ceiling, wearing the Pope's white silk cassock and red-ermine-lined cap.

Across the Tiber, Mussolini greeted the news of the Pope's death with a grunt of relief, eager that the Papal wake not interfere with his next coupling with Clara Petacci, his green-eyed young mistress. But one last concern remained. Over the years, he had put in place an extensive network of spies in the Vatican and read their reports eagerly. In recent days, they had warned him that the Pope planned to give an inflammatory anniversary speech denouncing Mussolini's anti-Semitic campaign and his ever tightening ties to the German Fuhrer. If the text got out now, he worried, it might yet do damage, a prophetic papal plea from the grave. There was one man, thought the dictator, in a position to help. He contacted Cardinal Pacelli, who in his role as chamberlain was now in charge of everything Pius had left behind, including the handwritten pages piled

on his desk and the stacks of freshly printed booklets ready for distribution to the bishops. Mussolini wanted all copies of the speech destroyed. He had reason the think that Pacelli would oblige him. Hailing from a prominent Roman family closely linked to popes for generations, Pacelli had for the last months lived in fear that the Pope would antagonize Mussolini. Too much, he thought, was at stake. Yes, he owed a great deal to the Pope who had made him secretary of state and had promoted him in so many ways. But he felt he had an even greater responsibility to protect the Church. He ordered the Pope's desk cleared, the printed copies of his speech seized.

Three weeks later a large crowd waited impatiently in St. Peter's Square as the cardinals met in conclave. At the appearance of the tell-tale ribbon of white smoke wafting from the Apostolic Palace, a cheer went up. "Habemus papam", announced the cardinal deacon from the balcony perched above the main entrance of St. Peter's. Soon a tall, thin, bespectacled figure, newly clothed in white papal robe and bejeweled tiara, strode out to give his blessing. Eugenio Pacelli would take the name Pius XII, honoring the man at whose bedside he had recently wept.

David I. Kertzer, "The Pope and Mussolini," Pulitzer Prize, 2014.

Amoung the candidates for most controversial Pope in the two millennia history of the Papacy is actually one who reigned very recently; in the Twentieth century; Eugenio Pacelli, known to history as Pope Pius XII. He led the world's Catholics during the greatest conflict in human history. As such he was placed to potentially be one of the greatest Popes - and this is where the controversy arises. Some say he was. Some say he was the very opposite. During the Second World War the Vatican knew of the Holocaust and yet there was a profound and unsettling silence from the Vatican not only during the war but a large degree also following it. As a consequence of this silence, the great question remains, could he have done more for the Jews, or was he the Jews greatest ally? Many Jews in fact did praise him, including none other than Golda Meir. Others however, are not so sure. John Cornwall went so far as to shockingly label him "Hitler's Pope". But to put this into perspective Pius XII was no friend of Hitler. He merely followed a policy that had been initiated by his far less well known predecessor Pius XI. In its most essential essence this was a policy of a tortured "unholy alliance" with the Italian fascists under Benito Mussolini. Pius XI was no friend of the fascists, but rather he saw them as the only barrier to Socialism and Communism in Italy; a movement that was gaining strength in the 1920s and 1930s, and one that was profoundly antireligious, and in particular anti-Papacy. The Vatican's great fear during the inter-war years was that of Communism, and in Mussolini and his Fascists Pius saw the only possible bulwark against an ungodly and powerful enemy.

Mussolini was not a religious man, but he was nothing if not an astute politician. He had no love of the catholic church, but in a nation that was 95% Catholic he knew that it was essential that he remained "on side" with the Roman Church, not only in the eyes of his countrymen but in the eyes of the world at large. Mussolini was basically a street thug as were his party, they would never gain full power in Italy or ascendancy over the socialists without an alliance with the Church. The bottom line was that the fascists needed the Church for legitimacy and the Church needed the Fascists for protection, and from this one of the most astonishing alliances in history was formed. Initially things seemed to go well, until Pius XI, a far more forceful personality than his successor Pius

XII, began to grow uneasy with the adulation Mussolini was showing towards Hitler and the ever closer alliance he was forging with the Nazi Party. Pius was prescient in his understanding of what Hitler's racial polices really meant and he became seriously alarmed when Mussolini began to expound the very same philosophies in relation to Italian racial superiority. Mussolini in fact did not harbor any particular prejudice against the Jews but was essentially sucked into an anti-Semitic policy in imitation of his idol Adolf Hitler. On the eve of the second World War, Pius XI understood just how dangerous a situation he had gotten the Church and his country into. He would make a great speech to Italy and the world denouncing Mussolini and the fascists. The Catholic Church in those days still had enormous influence, and with the incorporation of Austria into the German Reich, well over a quarter of the Reich's population was now Catholic. Catholic groups had in fact put a halt to the Nazi program of enforced sterilization during the 1930s. Mussolini got word that Pius was going to denounce him to the world and he became extremely anxious. But Pius XI was no longer the vigorous mountain climber of his youth, indeed his heath at this time was rapidly failing from uncontrolled heart failure. He kept hesitating with his speech, but when he finally decided to go ahead with it his health suddenly took an alarming turn for the worse and he died without ever delivering it.

His successor would be his protégé Eugenio Pacelli, who would take the name of Pius XII. Pacelli was a great supporter of the policy of appeasement with the Fascists. He assured Mussolini that Pius XI's speech would never see the light of day and that it would be buried in the Vatican Archives forever. Through the devastating world conflict that followed barely a word was heard from the Vatican, and on the issue of the Holocaust nothing but silence. It is held by many that by this silence Pius XII was tolerated by the fascists and in consequence he and the Church were able to clandestinely work to save many Jews who would have otherwise perished. The evidence for this however is tenuous and controversial, and when the true scale of the Holocaust became apparent after the war, the whole (alleged) strategy loses much credibility. If Pius XI had delivered a forceful denunciation of the Fascists on the eve of the Second World War, he could have seriously undermined Mussolini and indeed the Nazis to no small degree as well. His undelivered speech remains one of the greatest "what ifs" of history.

Dante Alighieri in his immortal "Divine Comedy" had no hesitation whatsoever in placing many of the Popes of his day into the circles of Hell. Pius XI was in fact a good man who took the only course of action he thought was open to him. But when the full consequences of that action became apparent to him, he had the strength of will to admit his mistake. His only real "sin" is that he took slightly too long to act before death overtook him. Dante reserved one place in Hell that was far less severe than the others. No real torment was given to the soul who went there, other than the knowledge that they could never dwell within the celestial spheres of Heaven. It was reserved for people who were not really bad, but by ***not*** *acting created great harm. This place was the "zone of the neutrals" where, amoung others, were placed the souls of the "ditherers", including Pope Celestine V. Perhaps this obscure Thirteenth century Pope now at least has some illustrious company!*

When we suspect a patient of having giant cell arteritis, there must be no dithering! Steroids are immediately commenced - even before temporal artery biopsy has been done.

GIANT CELL (TEMPORAL) ARTERITIS

Introduction

Giant cell arteritis (also known as **Temporal Arteritis** or **Cranial Arteritis**) is a protracted vasculitis of medium and large sized arteries.

Systemic symptoms are common in giant cell arteritis and vascular involvement can be widespread.

However it is the **cranial branches of the carotid arteries** (and hence the older terminology of "temporal" arteritis) that are most commonly affected.

Giant cell arteritis is a disease of aging. It is almost never seen below the age of **50 years.**

It is frequently associated with the related systemic rheumatological condition known as **polymyalgia rheumatica.**

The definitive test for giant cell arteritis is **temporal artery biopsy.**

The most feared complication of giant cell arteritis is acute visual loss.

Newly recognized temporal arteritis should be considered a true neuro-ophthalmic emergency.

Prompt treatment can prevent blindness and other vascular sequelae of temporal arteritis.

Treatment is with **corticosteroids** in the first instance and is **time critical** when the condition is suspected in order to **prevent visual loss**, even *before definitive diagnosis has been made on temporal artery biopsy.*

Epidemiology

Giant cell arteritis is the most common systemic vasculitis.

It is a disease of aging.

It is almost never seen below the age of **50 years**, and its incidence increases with age after this time.

Genetically the disease is predominantly one of Scandinavians and northern Europeans.

Pathophysiology

Giant cell arteritis is designated as a **medium to large vasculitis** because it can involve the aorta and great vessels, and because it shares some histopathologic features with **Takayasu arteritis**, the other major "large vessel" vasculitis.

It predominantly prominently involves the cranial branches of the arteries originating from the aortic arch, but it can less commonly be more generalized as well.

The most commonly involved arteries include:

- **The temporal arteries**
- **Posterior ciliary arteries**:
  - ♥ A branch of the ophthalmic artery from the internal carotid artery, and the main arterial supply to the optic nerve.
- **Ophthalmic (including central retinal) arteries**
- **The extracranial vertebral arteries**

Less commonly:

- **Aorta**
- **Internal carotid arteries**
- **External carotid arteries**

The precise etiology of giant cell arteritis is currently unknown, but it may involve a combination of both environmental and host genetic factors.

Complications:

1. Visual loss:
   - **The most important and most feared complication of giant cell arteritis is acute visual loss.**

     Visual loss is one of the most significant causes of morbidity.

     Permanent visual impairment may occur in as many as 60% of patients without adequate treatment.

Less commonly:

2. Large vessel involvement

   Large vessel involvement refers to giant cell arteritis of the aorta and its major proximal branches, especially in the upper extremities.

   The clinical consequences of large vessel involvement include:

   - Aneurysms and dissections of the aorta, particularly the thoracic aorta.

- ♥ The thoracic aorta, especially the ascending aorta, is affected more often than the abdominal aorta.

- ♥ Aortic dissection, can occur in the presence or absence of aneurysmal dilation as well as early or late in the course of disease.

- Stenosis, occlusion, and ectasia of large arteries.

3. CNS involvement/ stroke:

Strokes due to giant cell arteritis can occasionally occur in the distribution of the:

- Vertebrobasilar arteries (most commonly).

- The internal carotid arteries (uncommon).

Documented involvement of intracranial vessels in giant cell arteritis is rare.

Association with Polymyalgia Rheumatica:

Polymyalgia rheumatica is characterized by aching and morning stiffness about the shoulder and hip girdles, in the neck, and in the torso.

Polymyalgia rheumatica is closely linked to giant cell arteritis.

- About 40-50 % of patients with giant cell arteritis will also have polymyalgia rheumatica

- About 15 % of patients who have polymyalgia rheumatica will also have giant cell arteritis.

The precise nature of the relationship between giant cell arteritis and polymyalgia rheumatica is unknown.

In some patients, symptoms and signs of the two conditions occur simultaneously, while in others they appear separately over time.

Natural history:

Although the overall course of the disease is one of progressive improvement with a tendency to eventual complete resolution within about 2 years the clinical course can be highly variable in any given individual patient.

Clinical features

The onset of symptoms in giant cell arteritis tends to be **subacute**, but abrupt **acute** onset can also occur less commonly.

Usually symptoms have been present for weeks or months before the diagnosis is suspected or established.

Symptoms can be divided into **non-specific constitutional** and **suggestive.**

Non-specific constitutional symptoms:

Systemic symptoms associated with giant cell arteritis are frequent and may include:

1. Fever
2. Weight loss.
3. Anorexia
4. Lethargy/ malaise/ fatigue

Suggestive symptoms:

1. **Headache**:
    - This is the principle complaint in most patients who present with giant cell arteritis

      Classically, headaches due to giant cell arteritis are localized to the temples, the **region of the temporal arteries** but the headaches can also be frontal or occipital or generalized.
2. Signs of **temporal artery inflammation**:
    - Tenderness and hypersensitivity are usually seen over the temporal region in general.
    - Signs of inflammation along the course of the temporal artery may be detected with
        - ♥ Localized tenderness of the artery.
        - ♥ Inflamed arteries may be dilated and thickened, allowing vessels to be readily rolled between the fingers and skull.
    - Pulselessness may be noted over the temporal artery.
3. Large artery pulse and auscultation anomalies:
    - In the setting of large vessel disease, diminished pulses and discrepant blood pressure in the arms can occur.

The carotid, brachial, radial, femoral, and pedal pulses should be palpated, and the blood pressure in both arms measured.

- Bruits may be heard on auscultation, (but this is an insensitive and unreliable sign).

- Murmurs of **aortic regurgitation** are important to exclude, because they may signal the development of an ascending aortic aneurysm with secondary dilatation of the aortic valve.

4. **Jaw claudication**:

Nearly one-half of giant cell arteritis patients experience jaw claudication.

Patients frequently do not recognize the significance of the symptoms of jaw claudication and must be questioned directly about this.

Manifestations of this include:

- Fatigue of the muscles of mastication on eating

- Trismus like symptoms

Two striking features of jaw claudication are its rapid onset after the start of chewing and the ensuing severity of pain.

5. **Acute visual loss:**

The onset of blindness from involvement of the ophthalmic artery is the most serious complication of temporal arteritis.

Visual symptoms are present in up to 50% of patients

Presentations may include:

- A transient visual loss (i.e an **amaurosis fugax** type picture)

- A permanent visual loss

Visual loss may be:

- Partial (i.e a partial field defect) or complete.

- Unilateral or rarely bilateral.

Transient visual loss is a strongest predictor for subsequent permanent visual loss. It has been estimated that within one week, further loss of vision in the unaffected eye ensues in 25 - 50 % of untreated patients.

The risk of visual loss is virtually abolished however with the initiation of an adequate dose of glucocorticoids

If there is preexisting visual loss, such treatment will also markedly reduce the risk of further deterioration.

In a patient with *transient* monocular visual loss the ophthalmologic examination can be entirely normal. Some patients have cotton wool spots in the retina, indicative of local, retinal ischemia, depending upon the site of critical vascular lesions. The signs of CRAO are seen in those with complete loss of vision.

6. Diplopia:

Extraocular motility disorders occur in approximately 5 percent of patients with giant cell arteritis.

In the context of other symptoms suggestive of giant cell arteritis, diplopia has a high specificity for the disease.

Diplopia may result from ischemic damage to almost any portion of the oculomotor system, including the brainstem, oculomotor nerves, and the extraocular muscles themselves.

Symptoms of associated polymyalgia rheumatica:

On close questions the symptoms of an associated polymyalgia rheumatica may also be elicited.

Differential diagnosis:

The principle differential diagnosis is usually from the large vessel vasculitis, Takayasu arteritis.

The histopathologic and radiographic findings in giant cell arteritis and Takayasu arteritis may be indistinguishable.

These two disorders are differentiated primarily by:

1. Age of onset:

   - Giant cell arteritis almost never occurs in individuals younger than 50, while Takayasu arteritis typically begins before the age of 40 and frequently much younger.

2. Visual loss due to anterior ischemic optic neuropathy is unusual in Takayasu arteritis

Investigations

Blood tests:

1. FBE:

    - A normochromic normocytic anemia is often present prior to therapy but improves promptly after the institution of glucocorticoids.

    - The leukocyte count is usually normal, even in the setting of widespread systemic inflammation.

    - There may be a reactive thrombocytosis.

2. ESR:

    - This not a specific marker of giant cell arteritis, the ESR is elevated in most cases, and is often very high; in the order of **50 - 100 mm/hr.**

    - Lower levels make giant cell arteritis less likely, especially if normal, but do *not* completely exclude the diagnosis, when the clinical presentation is strongly suggestive.

    - ESR levels can be used to monitor both disease activity and response to therapy.

3. CRP:

    - Serum CRP levels in giant cell arteritis tend to parallel those of the ESR, though prospective head-to-head studies on the use of the ESR and CRP for the diagnosis and management of giant cell arteritis are lacking.

    - The clinical utility of each test varies from patient to patient. Disease activity correlates more closely with serum CRP in some patients and more closely with the ESR in others.

      Among patients with a paraproteinaemias or some other cause of a spuriously elevated or depressed ESR, the CRP level may be more reliable.

4. U&Es/ glucose

5. LFTs:

    - Elevated serum concentrations of hepatic enzymes, especially of alkaline phosphatase, occur in 25 - 35 percent of patients.

      The elevations are typically modest and revert to normal with glucocorticoid therapy.

Temporal artery biopsy:

If there is sufficient suspicion of giant cell arteritis based upon the history, physical examination, and laboratory features, a **temporal artery biopsy** should be performed.

Patients who manifest only symptoms of **polymyalgia rheumatica** do not require biopsy. However, such patients should be questioned carefully about headache, jaw or arm claudication, visual symptoms, and any unusual pain in the head or neck, any of which could suggest the possibility of giant cell arteritis. Additionally these patients should be closely monitored for the possible development of giant cell arteritis.

Temporal artery biopsies are generally obtained on an **outpatient basis** under **local anesthesia** in a surgical procedure suite or operating room.

It should be noted that the vasculitis can be patchy in both time and place.

A negative biopsy may be due to missing the region of vasculitis.

A decision by the Rheumatologist will also need to be made as to whether unilateral or bilateral biopsies should be done.

Note that in cases of uncertainty other extracranial arteries such as the occipital or facial arteries, may also be biopsied.

Traditionally there was concern that glucocorticoid therapy would interfere with biopsy findings (by masking any vasculitis), however scheduling of the biopsy should **not** interfere with the start of glucocorticoid therapy when there is a significant concern about the possibility of giant cell arteritis.

Preservation of vision remains the primary initial concern.

Resolution of the inflammatory process in giant cell arteritis occurs slowly after the start of treatment, and it is possible to make an accurate diagnosis several weeks or even months **after** the start of prednisolone therapy.

CXR:

CXR may show aneurysmal dilation of the ascending aorta in those patients who have aortitis.

CT angiography:

CT angiography may show evidence of medium and large vessel arteritis, (but is not reliable in making a diagnosis of giant cell arteritis).

MRI/MRA:

MRI/A may be a more useful *adjunct* (to clinical assessment and ESR/CRP findings) in diagnosing large vessel giant cell arteritis, particularly in cases not associated with cranial arteritis.

In addition, MRI/A has at least two other potential uses in giant cell arteritis, both of which show early promise:

- MRI/A may be able to identify regions of temporal artery involvement, thereby either serving as part of a diagnostic algorithm and/or helping to guide temporal artery biopsy.

- MRI/A may eventually be useful in gauging disease activity and in following the response to treatment in patients with large vessel giant cell arteritis.

  Most studies of this technique have been conducted in Takayasu arteritis, a disease closely related to giant cell arteritis.

Management

Newly recognized temporal arteritis should be considered a **true neuro-ophthalmic emergency.**

Prompt treatment can prevent blindness and other vascular sequelae of temporal arteritis.

Treatment with **corticosteroids** is **time critical** when the condition is suspected in order to **prevent visual loss**, even *before definitive diagnosis has been made.*

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One regime of treatment for **suspected giant cell arteritis** is as follows: [1]

Patients *without* visual symptoms:

- **Prednisolone** 40 - 60 mg orally, daily in the morning (in 2 divided doses if necessary for symptom control) initially for 2 - 4 weeks.

  If the ESR and CRP levels remain normal and all reversible symptoms of giant cell arteritis have resolved, the dose can be reduced using the following schedule.

Reduce the daily dose by a maximum of 10 % every 2 weeks until the daily dose is less than 10 mg, then decrease the daily dose by 1 mg every 4 - 8 weeks

PLUS:

- **Aspirin** 100 mg orally, daily

Patients *with* visual symptoms (i.e diplopia or visual loss):

- **Methylprednisolone** 1 gram IV, daily for 3 days, then oral prednisolone treatment as above

PLUS:

- **Aspirin** 100 mg orally, daily.

Negative biopsy results:

If the temporal or other artery biopsies reveal no evidence of arteritis but if **clinical suspicion** of giant cell arteritis remains strong, glucocorticoid treatment should still be continued.

Even with optimal bilateral temporal artery biopsy performance, false-negative results occur in around 10% of cases of giant cell arteritis.

Failure of the patient's symptoms to resolve within one week of high-dose glucocorticoids argues strongly against the diagnosis of giant cell arteritis.

Disposition:

Any patient suspected of having giant cell arteritis must have an urgent (same day) consultation with a **Rheumatologist.**

Any patient with visual symptoms should also have an urgent consultation with an **Ophthalmologist.**

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