case reports
THE CARE GUIDELINES

CASE REPORT

To encourage other practitioners to consider submitting a case report for the E – News, we have restructured the format in line with recommendations from July 2014 and have left in the key guides – should you be interested just e mail info@nutri-linkltd.co. We will send you the word doc.

Case reports are profesional narratives that outline the diagnosis, treatment, and outcomes of the medical problems of one or more patients. Information from case reports can be shared for medical, scientific, or educational purposes. They provide a framework for early signals of effectiveness adverse events, and cost. Case reports and the systematically collected data from which they are written also provide feedback on clinical practice guidelines.

Case Report of a woman whose localised gut pain resolves with NT support for her gallbladder function

Abstract. *Summarise the following information if relevant: (1) Rationale for this case report, (2) Presenting concerns (eg, chief complaints or symptoms, diagnoses), (3) Interventions (eg, diagnostic, preventive, prognostic, therapeutic exchange), (3) Outcomes, and (4) Main lesson(s) from this case report.*

This case explores a nutritional focused approach to the resolution of upper right quadrant abdomen pain and discomfort, radiating under the rib cage, in a 31 year old woman. In the absence of medical confirmation that gallbladder function was compromised, a targeted nutritional programme to support gallbladder function & optimise bile flow resolved the problem.

The gallbladder is a pear-shaped pouch for storing bile, a bitter greenish-brown alkaline fluid which aids digestion, and toxin removal and is secreted by the liver and stored in the gall bladder to help digest the fat in foods. In the liver bile is approximately 97% water and within the gallbladder it is concentrated 5 to 6 times, although it can be more. The concentration is vital for the proper emulsification capacity of the bile.

The ingestion of fats stimulates the gallbladder to constrict, thereby ejecting bile into the small intestine. However, if one of the bile ducts - the tubes that transport bile from the liver to the gallbladder and also from the gallbladder to the digestive tract - gets blocked with biliary sludge or gallstones or is infected or inflamed, the person can experience pain. The conditions and symptoms that are associated with gallbladder issues are:

- Biliary colic – intermittent blockage of a duct from gallstones or biliary sludge (sometimes referred to as uncomplicated gallstone disease). The pain is often sudden and increases rapidly in the upper abdomen, usually just under the right side of the ribs but also in the centre; it can spread to the right shoulder blade. It can occur at any time, day or night, and typically lasts from 1 to 5 hours, but it could last for just a few minutes. It may be accompanied by nausea and vomiting, and a mild ache may last for a day. There can be weeks or months between attacks or only one attack. Eating fatty foods can sometimes trigger an attack.
- Acute cholecystitis – inflammation of gallbladder tissue. The pain is severe and steady, lasting longer than biliary colic; it occurs in the right abdominal area and can spread towards the right shoulder. Pain is made worse by moving or coughing. The abdomen will be tender if touched or pressed, and the pain may occur with nausea, vomiting, fever, chills and bloating. (If these symptoms occur without the presence of gallstones but as a complication of trauma, it is known as acalculous cholecystitis.)
- Acute pancreatitis – sometimes linked to gallstones formed in the gallbladder blocking the pancreatic duct (which merges with one of the bile ducts), causing inflammation of the pancreas. Severe abdominal pain

just below the ribs that builds up over a couple of days; it can radiate to the back and the abdomen will be tender. The pain increases after eating and there may be nausea and vomiting.

- Cholangitis – an infection of the bile ducts. Upper right abdominal discomfort at first, turning into abdominal pain that can be accompanied by high fever and chills, itching and jaundice (yellowing of the eyes and skin). This condition needs emergency medical treatment.

Medical advice should be sought immediately if you develop abdominal pain that lasts for more than 8 hours, or if the pain is so intense that you cannot find a position that provides relief, or if you have a high temperature or chills, or if there is jaundice.

Gallbladder tests

Abdominal ultrasound: A non-invasive test in which a probe on the skin bounces high-frequency sound waves off structures in the abdomen. Ultrasound is an excellent test for gallstones and to check the gallbladder wall.

HIDA scan (cholescintigraphy): In this nuclear medicine test, radioactive dye is injected intravenously and is secreted into the bile. Cholecystitis is likely if the scan shows bile doesn't make it from the liver into the gallbladder.

Cholangiography: This procedure involves injecting dye into your bloodstream, which will concentrate in your gallbladder and bile ducts and show up on an X-ray.

Endoscopic retrograde cholangiopancreatography (ERCP): This procedure also uses dye injected into the bile system ducts, but the doctor uses a flexible tube inserted through the mouth, through the stomach, and into the small intestine. The doctor can see through the tube and inject dye into the bile system ducts. Tiny surgical tools can be used to treat some gallstone conditions during ERCP.

Magnetic resonance cholangiopancreatography (MRCP): An MRI scanner provides high-resolution images of the bile ducts, pancreas and gallbladder. MRCP images help guide further tests and treatments.

Endoscopic ultrasound: A tiny ultrasound probe on the end of a flexible tube is inserted through the mouth to the intestines. Endoscopic ultrasound can help detect choledocholithiasis and gallstone pancreatitis.

Abdominal X-ray: Although they may be used to look for other problems in the abdomen, X-rays generally cannot diagnose gallbladder disease. However, X-rays may be able to detect gallstones.

Gallbladder treatments

Gallbladder surgery (cholecystectomy): A surgeon removes the gallbladder, using either laparoscopy (also called "keyhole" surgery, in which several small cuts are made) or laparotomy (traditional "open" surgery with a larger incision).

Antibiotics: Infection may be present during cholecystitis. Though antibiotics don't typically cure cholecystitis, they can prevent an infection from spreading.

Ursodeoxycholic acid: In people with problems from gallstones who are not good candidates for surgery, this oral medicine is an option. Ursodeoxycholic acid may help dissolve small cholesterol gallstones and reduce symptoms.

Extracorporeal shock-wave lithotripsy: High-energy shockwaves are projected from a machine through the abdominal wall, breaking up gallstones. Lithotripsy works best if only a few small gallstones are present.

Contact solvent dissolution: A needle is inserted through the skin into the gallbladder, and chemicals are injected that dissolve gallstones. This technique is rarely used.

Gallbladder disease is a common condition that affects mainly women, although men can suffer too. Gallstones are seen in all age groups but they are rare in the young. The possibility of developing gallstones increases with age. The following groups are considered to be at increased risk:

- People who have relatives with gallstones
- Obese people
- People with a high blood cholesterol level.
- Women who take drugs containing oestrogen, eg contraceptive pills
- People with diseases such as chronic intestinal inflammation (Crohn's disease and ulcerative colitis).

In addition, those with under-functioning thyroid hormones can have an increased risk, because thyroid hormones regulate the flow of bile. Women who have oestrogen dominance (i.e. a relatively higher level of oestrogens to progesterone) can also have an increased risk of gallbladder problems.

The medical assessment of the condition is mostly focused on gallbladder disease as opposed to lack of ideal gallbladder function.

The incidence of gallbladder disease varies from country to country and is influenced by ethnic origins. One set of statistics shows that the figure is 1 in 438 people, but this varies in different populations, as well as being a co-morbidity with other conditions such as non-alcoholic fatty liver disease, obesity, high cholesterol cardiovascular disease, coeliac disease, & inflammatory bowel diseases where the incidence is considerably higher.

It should be noted, however, that in this case, there was no proven gallbladder issue or disease or gallstones.

Key Words. *Provide 3 to 8 key words that will help potential readers search for and find this case report.*

Gallbladder disease, gallstones, under-the-rib pain, bloating, bile, biliary, liver, inflammation, food intolerance.

Introduction. *Briefly summarise the background and context of this case report.*

A 31 year old mother of two, Mrs F.S., had experienced discomfort and pain under her right rib cage for over a year. She had been examined by her GP and been tested with an ultrasound which showed nothing out of the ordinary.

F.S. had also experienced abdominal pains associated with the consumption of certain foods. These symptoms of bloating and abdominal pain, diarrhoea and excess wind, but these were separate from the specific pain around her gallbladder / liver. Alcohol made the ache under the rib cage turn into a pain.

Over the past year, F.S. had experienced a noticeable decline in her energy.

By following the recommended nutritional advice of a diet free from wheat, dairy and alcohol combined with nutritional supplements designed to support her bile flow, antioxidant status, improve detoxification pathways and her gut lining, F.S. experienced a rapid improvement in the tenderness of her right side. Over months, in spite of an occasional undesirable outbreak of symptoms, the benefits were sustained and F.S. remained free of the aches, pains, digestive symptoms and improved her energy levels.

Presenting Concerns. *Describe the patient characteristics (eg, relevant demographics—age, gender, ethnicity, occupation) and their presenting concern(s) with relevant details of related past interventions.*

Mrs. F.S. is a 31 year old mother of two young children aged 3 & 4 years, is Caucasian and lives in London. She now works 3 days a week, and has a nanny to look after the kids for the three half days when they are not in their toddler / pre-school groups. F.S. had been a full time solicitor specialising in commercial property before having children and now had resumed her role in a part-time role. She told me, however, that she felt like she now did 5 days of work in the 3 days!

F.S. weighed 8 stone 9 lbs and is 5 foot 6 inches tall (53.77 kg & 167.6 cm). She was not a typical weight for someone with gallbladder issues. Like many young mothers, she had been considerably fitter before having children when she engaged in cycling and running and some climbing. She was physically strong, and had competed in a variety of sports at school and university.

Mrs F.S. presented with a very specific pain underneath her rib cage on her right hand side, in the location of her gallbladder. It had been sore to touch for a year, and from time to time it ached. The degree of discomfort was not great but she had visited her GP about it and tests had been conducted which were all negative.

Over the past year or so F.S. had also noticed that she could not tolerate wheat and dairy products as well as she had in the past. These foods most often resulted in bloating and abdominal pain (but this was separate from the specific pain around her gallbladder), diarrhoea and excess wind.

Alcohol was also something she could not tolerate because of the effect it had on her gut symptoms, and it also made the pain on her right hand side worse.

Whilst she avoided the major culprit foods where she could, about once a week she experienced the very uncomfortable gut symptoms. However, they were not always related to wheat and dairy food consumption. She had taken probiotics for about 6 months, of various brands, and they had made either no difference or resulted in more abdominal wind.

As a result of her busy life, as a mum of two young ones, and working 3 days a week, she did not seek any medical or health advice for about 3 months from the time the symptoms started. Now, after a year of having these health issues, she was noticeably more fatigued.

Her goals were to be free of the specific gut pain, be free of the reactions to foods (esp. wheat & dairy) and all of the gut symptoms that occurred, and to have more energy.

Clinical Findings. *Describe: (1) the medical, family, and psychosocial history including lifestyle and genetic information; (2) pertinent co-morbidities and relevant interventions (eg, self-care, other therapies); and (3) the physical examination (PE) focused on the pertinent findings including results from testing.*

Mrs F.S. had no family history of any gallbladder issues. There was no incidence in her parents or grandparents of any condition even associated with gallbladder disease or gallstones, including thyroid disorders or obesity for example.

In her own life, F.S. had been in robustly good health. There had been a rare day off school or away from work, and she had considered herself fit, strong and well.

F.S. had visited her doctor after about 3 months of experiencing the 'under-the-rib pain'. She had thought she might have had food poisoning because it coincided with a bout of diarrhoea. However, the tenderness had remained and from time to time it became moderately uncomfortable. Additionally, she subsequently experienced the intermittent but regular GI upsets.

She had asked the doctor for allergy tests when she discovered that wheat was a trigger but none had been conducted.

She had been referred to a gastroenterologist who had then referred her for an ultra-sound scan, and she was declared free of gallstones, free of any obstruction and free of any other GI pathology. A stool test was conducted and it was 'negative' but F.S. was not able to tell me what has been analysed.

A gentle palpation by herself on the square inch below her right rib cage, 3.5 inches from the mid-line elicited pain, as it always did. F.S. confirmed that the tenderness, and the ache when it was present, never moved from that single spot. The only thing that definitely made it worse was any amount of alcohol.

F.S. did not often eat fatty foods, so it was not possible to determine if a high fat meal triggered the ache, but as far as she knew, nothing other than alcohol did so predictably.

I considered a stool test but was not confident that it would show up useful information. If an imbalance in her gut flora was confirmed by the stool test then it would not necessarily help because she had not had any benefits from probiotics, albeit of unknown strains and sources.

Timeline. *Create a timeline that includes specific dates and times (table, figure, or graphic).*

F.S. had been in good health all of her life. She had enjoyed a wide variety of physical pursuits and been able to consume diverse foods with no symptoms. Aged 27 she gave birth to her first child and at 28 she gave birth to her second child. She breast fed both for 6 months.

At 29 years of age, F.S. began to notice that wheat and dairy caused her to feel bloated, and she had some abdominal pain and sometimes loose stools and excess flatulence. Not too long after this, although with no direct correlation, F.S. first noticed tenderness under her right rib cage. This occurred in very close proximity to what she thought was a bout of food poisoning so she had put it down to that.

F.S.'s tolerance of alcohol was also definitely markedly less than it had been, although she "had never been a big drinker". It was easy to spot that any alcohol triggered the under-the-rib discomfort.

At 30 and 31 years of age F.S. discovered that her symptoms became more and more frequent, and during this time she had confirmation from the Dr and gastroenterologist that there was no evident 'reason' for the symptoms which had put her mind at rest on the one hand, but left her with uncertainty on the other.

Diagnostic Focus and Assessment. *Provide an assessment of the (1) diagnostic methods (eg, PE, laboratory testing, imaging, questionnaires, referral); (2) diagnostic challenges (eg, financial, patient availability, cultural); (3) diagnostic reasoning including other diagnoses considered, and (4) prognostic characteristics (eg, staging) where applicable*.

Whilst a stool test was considered, it was not recommended by myself due to lack of confidence of offering an explanation for the specific tenderness in her right side, right over the liver / gallbladder.

The ultrasound had ruled out gallstones. The doctor and gastroenterologist appeared confident that there was no infection for which antibiotics would have been recommended. No other pathology could be identified, although it is true to say that the investigations has not been exhaustive.

I believed that there was at the very least some inflammation present, and the fact that the pain / discomfort did not move from the under-the-rib location made me consider that the exit route of the bile into the small intestine, or something similar, was being aggravated by bile.

Therapeutic Focus and Assessment. *Describe: (1) the type(s) of intervention (eg, preventive, pharmacologic, surgical, lifestyle, self-care) and (2) the administration and intensity of the intervention (eg, dosage, strength, duration, frequency).*

With all of F.S.'s case history and presenting symptoms taken into account, the aim was to support F.S.'s gut lining, help her bile flow, and provide anti-inflammatory liver antioxidant support combined with a chlorophyll concentrate (Porphyra-Zyme) that binds to toxins. I believed that there was a persistent but local inflammation which may have been either in a bile duct or at the exit of bile duct into the small intestine, caused by the bile. If this had been an infection this would have been detected before now, or manifest into something more observable with an exacerbation of symptoms.

Over the previous 12 months, F.S. had experimented with periods of avoiding eating wheat and dairy and generally ate reasonably well. Whilst she was not overweight, she did over-emphasise carbohydrates in her diet with wheat alternatives. She tended to snack on fruit throughout the day as well. Therefore, in addition to avoiding alcohol, wheat (gluten) and dairy, I also recommended that she eat one piece of fruit separately twice daily maximum, and consume more protein in the form of chicken and fish and eggs and less carbohydrates at each meal.

Her fluid intake also needed to be increased, and the suggestion of hot water with ginger meant that F.S. felt confident that she could do so, since she did not care for plain water.

We agreed to a 3 month trial of this, together with targeted supplements which are described below.

F.S. followed the programme for 4 weeks and then returned for a follow up. She then continued with the programme for a further 6 weeks and attended a second follow up. She then followed a similar programme for months after this due to the improvements she experienced.

We have exchanged a number of email contacts and she has kept me informed of her continued good health.

Here are details of the supplements that were taken in addition to her exclusion diet.

First Supplement Programme	Dose
Gluta-Ascorbs (ARG)	1 with each meal
ButryEn (ARG)	1 with each meal
Ca-D-Glucarate (BRC)	1 with breakfast & 1 with dinner
Porphyra-Zyme (BRC)	1 tab 30 mins after each meal

After 4 weeks, at the first follow up appointment, F.S. told me that she had noticed an improvement in the tenderness after just two days of taking the supplements.

After a week, she told me that the tenderness disappeared for a day, but then returned the next. However, the ache never returned again, and the tenderness gradually diminished so that when we met for the second time, it was virtually non-existent.

After three weeks, however, F.S. experienced diarrhoea and bloating again, and was disheartened because she had avoided wheat and dairy and alcohol. It is not known what caused this episode but it did not occur again after this. In a brief telephone conversation, we discussed the reduced frequency of these bouts of GI pain and diarrhoea and F.S. acknowledged that they were less than one third of what they were.

The recommendations for F.S. were very similar to the first phase, and she continued for a further 6 weeks, when we met again. The tenderness was no longer an issue and she demonstrated by pressing her fingers into the spot that previously had elicited pain. She had also not experienced any diarrhoea, but because she felt that she was better she had eaten wheat a few times and had suffered from bloating as a result. This taught her that she still needed to avoid this grain. She had not had any alcohol, and did not miss it.

Second Supplement Programme	Dose
Gluta-Ascorbs (ARG)	1 with largest meal of the day
ButryEn (ARG)	1 with breakfast
Porphyra-Zyme (BRC)	1 tab 30 mins after one or two or three meals a day

F.S. reported that her energy had improved and she advised that she slept better too. All in all, the programme had been very successful. Although it had been explained at the outset and then briefly again at the first follow up, she again enquired about the function of the supplements since she wanted to be able to tell her husband what they were for, since he was very impressed that she was 'cured' of her condition when nothing else had helped.

I explained my belief that the Gluta-Ascorbs (ARG) had helped to support antioxidant status and so reduce inflammation in the gut, that the ButryEn (ARG) had helped to support the healing of the gut lining and support a normal bile flow and reduce ammonia in her gut, that the Ca-D-Glucarate (BRC) had supported the antioxidant balance in the body resulting in an anti-inflammatory effect, but perhaps more importantly had helped to bind to oestrogens to escort them out of the body via the bile, and lastly that the PorphyraZyme (BRC) had helped to bind to toxins in the gut, carrying them out of the body.

I also emphasised that the avoidance of wheat, dairy and alcohol were important dietary changes that helped her to achieve her overall improvements. She had not consistently, or 100% avoided these things, but being involved in a direct programme she had managed to do so.

F.S. remains free of the under-the-ribs pain and all digestive symptoms, and whilst it is understandable that someone can develop food intolerances, we do not have any firm certainty about what caused her specific tenderness.

Supplement Information

Gluta-Ascorbs (ARG)
A combination of reduced glutathione and vitamin C. Despite the paucity of evidence to support oral glutathione supplementation on raising blood levels of glutathione, this product consistently helps to support those patients with liver detoxification support and or a need for increased levels of glutathione within the GI tract. Glutathione supports detoxification processes within the gut which are as abundant in the GI tract as the liver itself. By supporting the glutathione pathway, it helps to reduce inappropriate inflammation and the burden on the other pathways such as glucuronidation, methylation and sulphation.

ButryEn (ARG)
ButyrEn is an enteric-coated, extended shelf-life formulation of the calcium and magnesium salts of butyric acid, designed specifically for delayed release in the gastrointestinal tract. Butyric acid (BA) is a short-chain fatty acid (SCFA) produced by certain commensal bacteria and their metabolic breakdown of fibre, and appears to support mucosal integrity as the epithelial cells utilise it. Butyric acid may support the integrity of the colonic mucosa by acting as a primary fuel for the colonic epithelium (colonocytes). Butyric acid ("butyrate" when in salt form) is an important SCFA for this reason. BA also supports the maintenance of bifidobacterium species in the large intestine.

Although more indicated for the large intestine, I find this product is a useful supplement for helping to heal the small intestines and correct altered intestinal permeability. It also helps to reduce ammonia, support commensal bacterial growth and encourages bile flow, and has in my practice been a contributory factor to reducing 'brain fog' caused by GI issues.

Ca-D-Glucarate (BRC)
Provides the substrate for glucuronidation, which is one of the major Phase II hepatic detoxification pathways.

PorphyraZyme (BRC)
Porphyra-Zyme™ - A Concentrated Prophyrin Product. Unlike traditional chlorophyll products, Porphyra-Zyme is a concentrated porphyrin supplement. By increasing the porphyrin content, the heavy metal binding capability is also increased, providing clinicians with a natural, effective "chelating" tool.

Porphyrins have the ability to bind divalent metal ions due to the nitrogen atoms of the tetrapyrrole nucleus. The central ion in chlorophyll is magnesium, which is freed from chlorophyll under acidic conditions, permitting other metals to bind in its place. Toxic metals, such as mercury, lead and arsenic, are complexed by the porphyrins.

Discussion. *Please describe (1) the strengths and limitations of this case report including case management, (2) the literature relevant to this case report (the scientific and clinical context), (3) the rationale for your conclusions (eg, potential causal links and generalizability), and (4) the main findings of this case report: What are the take-away messages?*

Strengths and limitations of this case report including case management

The strength of this case report lie in the careful and thorough case history assessment, with a time line, as well as being able to call on experience of those clients who have had gallbladder issues in the past.

A limitation was the lack of exhaustive tests that could have delved more deeply into what may have been going on, but at the same time the duration of the symptoms combined with the medical investigations lent some reassurance to the confidence in pursuing a nutritional route to resolution for this woman.

The literature relevant to this case report

There is no specific literature which led to the choice of nutritional intervention for this woman. Rather, experience combined with some relatively basic understanding of anatomy combined with the negative medical tests led to the recommendations.

The rationale for your conclusions

The absence of any pathology, the duration of the symptoms, the predictability of alcohol triggering the discomfort, the unmoving location of the discomfort and the understanding that an imbalanced detoxification pathway within the liver could lead to inflammatory compounds in the bile led to the specific intervention.

The main findings of this case report: What are the take-away messages?

An open-minded approach with careful listening to the patient, without any preconceived notions of what might or might not be going on was vital. The simple detail of the case history led to a simple approach which proved successful. Just because this is a rare case does not mean it was not an entirely logical choice of intervention.

The take-away lesson is the ability to focus on the individual in front of you without trying to bend the signs and symptoms into an existing 'diagnostic box' which makes the treatment more comfortable due to familiarity. The intervention needs to match the individual needs and not be attached to a protocol.

Patient Perspective. The patient should share his or her experience or perspective of the care in a narrative that accompanies the case report whenever appropriate.

F.S. and her husband were very impressed by the reduction in her symptoms. They became educated as to what the specific supplements did and then applied this knowledge to F.S.'s case, and they could not find flaw in the approach which resulted in a resolution of the discomfort & digestive symptoms (albeit whilst still on a wheat and dairy free and alcohol free diet) and improved energy levels.

Whilst they nor I have proof of what specifically was 'wrong' we do know that the approach which supports antioxidant status, bile flow & gut lining health is what worked and continues to do so.

Informed Consent. *Did the patient give the author of this case report informed consent? Provide if requested.*

The patient is not aware her case history is being used, and all identifiable data has been removed. F.S are not her real initials.

Case Report Submission Requirements for Authors

1. Competing interests. *Are there any competing interests?*

None Known

2. Ethics Approval. *Did an ethics committee or Institutional Review Board give approval? If yes, please provide if requested.*

This case was not presented to an ethics committee.

3. De-Identification. *Has all patient related data been de-identified?*

All patient data has been re-identified

4. Author. *Name of Author and practice*

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