The picture (Figure 1) showing a markedly virilized central figure with an infant at the breast was painted in 1631 by Jose Ribera, a Spaniard living in Naples. It was commissioned by Ribera’s patron, the Duke of Alcala and in due course returned to Spain. It was exhibited in Paris and in the Royal Academy of San Fernando in the early 19th century and hung for many years in the Hospital Tavera in Toledo. It is now in the Museo del Prado, Madrid.

The central figure poses a conundrum but a case for the diagnosis of the underlying medical condition which would explain all the features seen can be made from evidence in the picture. The medical history of this real named person is given in the Latin inscription on the stone tablets in the picture, enhanced in Figure 2. The inscription translates as follows:

Look, a great miracle of nature. Magdalena Ventura from the town of Accumulus in Samnium, in the vulgar tongue Abruzzo in the Kingdom of Naples, aged 52 and what is unusual is when she was in her 37th year she began to go through puberty and thus a full growth of beard appeared such that it seems rather that of a bearded gentleman than a woman who had previously lost three sons whom she had borne to her husband, Felici de Amici, whom you see next to her. Joseph de Ribera, a Spaniard, marked by the cross of Christ, a second Apelles of his own time, by order of Duke Ferdinand II of Alcala, Viceroy at Naples, depicted in a marvellously lifelike way. 17th February 1631.
Magdalena Ventura’s features show frontal balding, a luxuriant beard, coarse skin but no acne, masculine face and large but not acromegalic hands. She has one engorged breast and an infant held just away from the nipple. She wears a beautiful rich dress and has a proud bearing in contrast to the shadowy portrait of her husband standing behind her. His beard is straggly and he appears less than happy and worn out (perhaps due to his wife’s testosterone-fuelled sex drive!).

Two further clues to the gender of Magdalena are the small objects on top of the stone tablets; a spindle—a symbol of womanhood, and the shell of a snail, a hermaphrodite.

The history that she had borne three sons tells us that she must have had a normally functioning hypothalamic—pituitary—gonadal axis and normal internal female organs. We do not know her menstrual history, particularly after her 37th year ‘when she began to go through puberty’ meaning probably that her masculine appearance began then when her beard developed and her periods would have stuttered to a stop. Nor do we know whether the beard grew gradually at first and flourished later. Magdalena however is depicted as though at the age of 52 she had delivered another child whom she is breastfeeding. The median age of the menopause nowadays is 51 and it remains possible to conceive spontaneously at that age in someone who is still menstruating. The oldest woman to conceive naturally in the pre-in vitro fertilization (IVF) era was 57 in the USA and 55 in the UK.1 It is unlikely that Magdalena would have conceived had she had sustained very high testosterone levels which would suppress the pituitary-gonadotrophin axis and prevent ovulation. Women with polycystic ovaries however may still ovulate, usually irregularly, despite typically only modest hirsutism rather than a heavy growth of beard.

The breast is not natural in its position or appearance and Ribera was too good a painter not to have done this deliberately. It would seem more likely that the artist has added the engorged breast and infant to the picture to emphasize Magdalena’s true underlying female nature despite her masculine features. Ribera was a very good painter, even though he says so himself in the Latin inscription in which he describes himself immodestly as ‘a second Apelles’ (the greatest painter of antiquity). It remains possible although unlikely that the child at the breast is hers. We are not given the name of the child or the names of the three sons she lost, either in the inscription or in the archives Ducal de Medinaceli where the records are kept.

The most likely diagnosis is that of a benign androgen producing tumour of the ovary, now called an androblastoma, rather than polycystic ovaries. The excess androgens could be of adrenal origin but she does not have a Cushingoid appearance nor is it likely that she has any of the congenital adrenal enzyme deficiencies, given her history of natural childbirths. This history would also exclude 5a-reductase deficiency, in which there is a failure of conversion of testosterone to dihydrotestosterone, in genetically male pseudo-hermaphrodites which results in ambiguous genitalia and who are typically brought up as female but commonly develop masculine features at puberty.2 This condition is the basis of a sympathetic novel entitled Middlesex.3 Nevertheless an adrenal androgen secreting tumour would need to be excluded if one were investigating a woman with the features exhibited by Magdalena in the 21st century.

Androblastomas, or Sertoli—Leydig cell tumours of the ovary, account for <1% of all ovarian tumours. Most occur in the 20–40 year age group but can occur at any age. Most are unilateral and if well differentiated follow a benign course (as is likely with Magdalena’s 15 year history) but poorly differentiated tumours are malignant. The histology may show various cell types including Leydig and Sertoli cells. The majority are androgenic and Leydig cells are the main source of androgens. The clinical features depend on the degree of androgenization but virilization can be rapid, especially if the tumour develops during pregnancy4 which just might have been the case if Magdalena’s hirsutism had progressed during a recent pregnancy. It remains a matter of conjecture whether the infant depicted is Magdalena’s own child but if this were true it is likely that exposure to very high testosterone levels in utero would have resulted in the newborn having ambiguous genitalia. It is difficult to determine from the picture whether the infant is a boy or a girl and it has confused different authors of articles on the painting, one of which is entitled ‘Magdalena Ventura with her Husband and Son’ while another is entitled ‘Magdalena Ventura avec son Mari et sa Fille’.

Further investigation of a woman such as Magdalena presenting with virilization in the 21st century would be likely to show XX chromosomes, normal sex hormone-binding globulin, high free testosterone in the usual male range of 10–25 pmol/l rather than the normal female range of 0.5–2.5 pmol/l and failure of suppression with dexamethasone.5 Magnetic resonance imaging (MRI) scans of the abdomen would be needed to show both ovaries and adrenals (Figure 3a, b). It would also be essential to sample by catheterization both ovarian and adrenal veins to determine the source of the excess androgens (Figure 3c).
Treatment options today for androblastoma would include unilateral or bilateral oophorectomy, with or without hysterectomy, and if histology revealed malignancy, chemotherapy and radiotherapy.

Perceptions

The painting of La Mujer Barbuda has evinced a variety of observations over the centuries. Admiration, curiosity, fascination and revulsion have all been expressed and even today some medical professionals find it disturbing. Ribera was an admirer of Caravaggio and the school of ‘tenebrists’ who liked to contrast the light and the shade (witness the glowing Magdalena whilst her husband remains in the shadows) and also had a fascination with the bizarre and the macabre. Nevertheless the subject has been treated with dignity and described as ‘A Miracle of Nature’. Contrast this attitude with the way in which the bearded woman has been treated over subsequent centuries elsewhere in Europe. Some were regarded as witches and even burnt at the stake. Others, particularly in 19th and 20th century Britain were treated as freaks and exhibited in circuses along with dwarfs and giants to be gawped at and mocked. Even in the 21st century attitudes of politicians, press, public and some medical professionals towards sexual ambiguity, for example in athletes, reveal ignorance, prejudice, prudery and insensitivity. Most matters of ambiguous gender identity can be clarified through proper clinical examination and such investigations as I have applied hypothetically to La Mujer Barbuda. These should be conducted in private and with sensitivity over whatever time is needed to sort out the often difficult problems of both diagnosis and management. It is not appropriate that anyone with delicate gender issues should be manipulated in public or private by politicians or the media or anyone else for their own ends.

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Figure 3. Scans from a 55 year old woman presenting with virilization due to androblastoma of the ovary. (a) An MRI scan of the pelvis showing bilateral heterogeneous enlarged ovaries. (b) An MRI scan of the upper abdomen from the same patient showing a left adrenal adenoma. (c) Venous sampling from the same patient showing the tip of the catheter in the left adrenal vein. Similar high (male) testosterone levels were found in the Inferior Vena Cava (IVC), left and right adrenal veins and left ovarian vein but were twice as high in the samples from the right ovary (not shown) which was the site of the tumour. The adrenal adenoma was an incidental finding.
for providing the MRI scans and venogram of a person with an androblastoma.

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References
1. Guinness Book of World Records: Oldest spontaneous birth (see also Google).